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MICROSOFT CORPORATION

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

INTERTRUST TECHNOLOGIES CORPORATION, a Delaware corporation,

Plaintiff,

v.

MICROSOFT CORPORATION, a Washington corporation,

Defendant.

AND RELATED CROSS-ACTION.

Case No. C 01-1640 SBA (MEJ)

Consolidated with C 02-0647 SBA (MEJ)

DEFENDANT MICROSOFT CORPORATION'S PRELIMINARY INVALIDITY CONTENTIONS

(Patent Local Rules 3-3 and 3-4)

I. Patent Local Rule 3-3(a) Identification of Prior Art

Pursuant to Patent Local Rule 3-3, Defendant Microsoft Corporation ("Microsoft") makes the following Preliminary Invalidity Contentions[1] with respect to the following patents asserted by plaintiff InterTrust Technologies Corporation ("InterTrust") in this action: U.S. Patent No. 6,185,683 ("the '683 patent"); U.S. Patent No. 6,253,193 ("the '193 patent"); U.S. Patent No. 5,920,861 ("the '861 patent"); U.S. Patent No. 5,982,891 ("the '891 patent"); U.S. Patent No. 5,917,912 ("the '912 patent"); U.S. Patent No. 6,157,721 ("the '721 patent"); U.S. Patent No. 5,915,019 ("the '019 patent"); U.S. Patent No. 5,949,876 ("the '876 patent"); U.S. Patent No. 6,112,181 ("the '181 patent"); and U.S. Patent No. 6,389,402 ("the '402 patent").

Despite the length of time this case has been pending, discovery is still at an early stage due to intervening stays. InterTrust continues to assert eleven patents and over one hundred and fifty claims. In view of these factors, Microsoft continues to evaluate the prior art at this time. Microsoft reserves the right to amend or supplement its Preliminary Invalidity Contentions to take into account prior art, information or defenses that might come to light as a result of its continuing discovery efforts, errors subsequently recognized by any of the parties, and as a result of further evaluation of the prior art.[2] In addition, Microsoft has moved to strike InterTrust's September 2, 2003 PLR 3-1 Preliminary Infringement Contentions as being insufficient. To the extent that the Court grants Microsoft's motion and orders InterTrust to amend/re-serve its 3-1 statement in compliance with the Local Rules, Microsoft reserves the right to amend or supplement its PLR 3-3 Preliminary Invalidity Contentions in response to any amended infringement contentions submitted by InterTrust. Microsoft further reserves the right to rely

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[1] These Preliminary Invalidity Contentions incorporate by reference Microsoft's prior Preliminary Invalidity Contentions dated August 7 and 16, 2002.

[2] For example, Microsoft reserves the right to amend/supplement this disclosure once InterTrust complies with discovery responses, which Microsoft contends are incomplete and inadequate. To date, Microsoft has objected to InterTrust's continued refusal to provide information sought in discovery, including, but not limited to: the identity of the alleged inventors of specific claims; conception or actual reduction to practice dates for specific claims; whether to there has ever been any alleged embodiment(s) of the asserted claims; and what, if any, specification support is alleged, including from any of the applications for which InterTrust claims priority. Each of these pieces of information could affect the priority date for any given claim, expanding or narrowing the window of applicable prior art. Without this information, which is within InterTrust's exclusive knowledge and control, Microsoft's PLR 3-3 Contentions are subject to amendment and/or supplementation.

upon InterTrust's own activities, alone and in connection with others. Microsoft further reserves the right to amend this statement or otherwise further respond if InterTrust contends (or the Court rules) that any earlier or later priority dates may apply for individual claims. Microsoft also reserves its right to amend or supplement these invalidity contentions pursuant to Patent Local Rule 3-6 and 3-7.

Attached hereto, as Appendix A, is a listing showing "the identity of each item of prior art that allegedly anticipates each asserted claim or renders it obvious" (PLR 3-3(a)). On information and belief, each listed publication became prior art at least as early as the dates given. In addition, the citations and explanations provided in the exhibits are mere examples, and Microsoft reserves its right to rely on any other portions or aspects of the prior art references and systems that may also disclose or practice elements of the asserted claims. Patent Local Rule 3-3 does not require identification of evidence that establishes the inherence of a claim element in an item of prior art, nor does it require identification of evidence that establishes knowledge of those of ordinary skill in the relevant fields of art. Accordingly, Microsoft does not purport to have provided all such information in the attached exhibits.

From InterTrust's current document production, it appears that its employees' and consultants' activities, including offers for sale, public uses, derivations, "inventions" (as the word is used in 35 U.S.C. § 102(g)), and disclosures to Willis Ware, Drew Dean, and others not under any duty of confidentiality, constituted or created material and perhaps anticipatory prior art to many of the asserted claims. This art was not cited to the Patent Office. Discovery is ongoing, and Microsoft reserves the right to amend or supplement this disclosure after Microsoft has had an opportunity to investigate this possible prior art during discovery.

II. Patent Local Rule 3-3(b) and 3-3 (c) Classification and Analysis of Prior Art

Microsoft contends that at least one term or phrase in each of the asserted claims is indefinite under 35 U.S.C. § 112, and hence, each of the asserted claims is incapable of construction. However, for the limited purpose of classification and analysis of prior art, Microsoft has construed the claim terms in a manner consistent with the apparent construction of terms offered by InterTrust in its Revised Preliminary Infringement Contentions. Microsoft does

not agree with these constructions, and nothing in these Preliminary Invalidity Contentions should be construed as an admission, a declaration against interest, whether under the Federal Rules of Evidence or otherwise, as to what a particular claim limitation means. For this reason, Microsoft's identification of "corresponding structures" for "means-plus-function" limitations that are set out in the Preliminary Invalidity Charts are not admissions as to the identity of such structures. Rather, they are based upon Microsoft's best guess as to what InterTrust may someday identify as corresponding structures for the means-plus-function limitations of its asserted claims, to the extent that Microsoft understands them.[3]

Accordingly, Microsoft's Preliminary Invalidity Contentions should not be construed as advocating a particular claim construction for any disputed claim terms. For the limited purpose of providing Preliminary Invalidity Contentions, and subject to the conditions set forth above, Microsoft has, to the extent possible, attempted to construe the claims in a manner consistent with InterTrust's Revised Preliminary Infringement Contentions.

Pursuant to Patent Local Rules 3-3(b) and 3-3(c), Microsoft provides the classification of prior art in the listing and charts attached hereto as Appendices A and B. Appendix A, beyond identifying each item of prior art, further indicates whether each prior art reference is used as an anticipatory reference and/or as a reference which, alone, or in combination with other prior art, renders the claims obvious. Appendix B includes charts which (1) specifically identify where in each item of prior art each element of each asserted claim is found and (2) establish how that prior art anticipates or renders obvious all of the asserted claims. In the event that any charted prior art is found not to be anticipatory under 35 U.S.C. § 102, Microsoft reserves the right to rely upon that art to prove obviousness under 35 U.S.C. § 103. Likewise, in the event InterTrust

[3] To date, InterTrust has refused to identify any structure corresponding to the means-plus-function elements in its asserted claims. It is Microsoft's position that this is a violation of the Patent Local Rules, and that as a result of refusing to identify a structure associated with each means-plus-function element, InterTrust admits that there is no such structure disclosed, has waived its right to assert claimed structure, and that those claims are therefore invalid at least for failure to satisfy the written description requirement of 35 U.S.C. §112. *See* InterTrust's Patent Local Rule 3-1 served September 2, 2003 and InterTrust's Opposition to Microsoft's Motion to Strike InterTrust's PLR 3-1 Contentions.

amends or supplements its Preliminary Infringement Contentions, Microsoft reserves its rights to amend and supplement its Preliminary Invalidity Contentions.

To the extent that any prior art produced to InterTrust has not been classified as prior art under 35 U.S.C. §§ 102 or 103, Microsoft reserves the right to rely on this art or supplement its disclosure for the following reasons:

(i) Microsoft's position on the invalidity of particular claims will depend on how those claims are construed by the Court. As thus far only preliminary claim construction has occurred Microsoft cannot take a final position for the bases for invalidity of disputed claims. The Court's subsequent claim constructions of remaining terms may yield constructions different from what Microsoft assumes herein.

(ii) Microsoft is continuing to diligently search for relevant prior art but has not yet completed that search and continues to evaluate prior art that has been located.

(iii) Microsoft has not completed its discovery from Plaintiff or from third parties with knowledge of the relevant prior art. Depositions of the persons involved in the drafting and prosecution of the patents-in-suit, the inventors, and persons who attempted to practice InterTrust's claimed invention, for example, will likely affect Microsoft's contentions.

A. Prior Art Under 35 U.S.C. § 102 Which Anticipates The Asserted Claims of Each of the Asserted Patents

Subject to the above-referenced qualifications concerning the preliminary nature of this disclosure, Microsoft believes a reasonable basis exists that, as more particularly explained in the Preliminary Invalidity Contentions attached as Appendix B hereto, the references listed in Appendix B anticipate the asserted claims of the each of the asserted patents.

B. Prior Art Under 35 U.S.C. § 103 Which Renders Obvious One or More of the Asserted Claims

Each of the references called out in Appendix A can be combined with one another so as to render one or more of the claims of the asserted patents invalid as obvious, and many of them are explicitly motivated to do so by virtue of extensive cross-references to one another's solutions. InterTrust is currently asserting 151 claims in eleven patents, which cite hundreds of references. Hundreds of additional non-cited relevant prior art has been uncovered and cited to

InterTrust. The number of potential combinations of these references, if only two or a few references are combined for each claim, is necessarily very large. Microsoft requests InterTrust to reduce its asserted claims so as to reduce the number of combinations to a manageable number. Nonetheless, Microsoft has provided mapping of combinations as discussed below. Indeed, even where explicit cross-referencing and incorporation by reference does not exist, the motivation to combine any of the references arises from the common objectives and subject matter, digital rights management. The common objectives and subject matter are expressed generally in the claim charts of Appendix B, which are incorporated by reference into Microsoft's showing under 35 U.S.C. § 103.

The motivation for seeking "security," privacy and integrity was widely recognized in the United States and elsewhere prior to February 13, 1994, and since prior to February 13, 1994, has extended to any information or item of perceived value, including books, music, games, computer systems, other computer programs, and any digital data or content that maybe deemed valuable or worthy of protection. Additional motivations to combine references include the desire to meet or exceed any applicable laws or industry or government standards, such as the Orange Book, Computer Fraud and Abuse Act of 1986, Computer Security Act of 1989 PL100-35, High Performance Computing Act (HPCA) of 1991 (PL102-194), and 17 U.S.C. §§ 101 et seq. Industry standards include those for communication such as X.509, TCP/IP, WWW, and WAIS, and those for encryption or transmission of encrypted information, *e.g.* DES, Triple DES, RSA, SSL, MIME, S/MIME, SHTTP, HTTPS, MD5, and PEM. Additional teachings to combine these references with such items of information include "security" (including "security" levels), permissions, certificates, tickets, "secure" processors, "secure" storage, "smart" cards (including smart cards able to store data and perform computations such as encryption/decryption), tamper resistance techniques for hardware and software, physical "security", and "trusted" time. Also included are authentication and authorization in trusted distributed systems, enabling software or features thereof to run only on particular machines or in particular ways, and treating binary information/data at varied levels of granularity.

It was further obvious to combine any of these "security" features with any of the software or hardware available at the time. For example, it would have been obvious to combine any file and operating systems such as NT, NFS, Andrew, Netware, Mach, DT Mach, Multics, Amoeba, ISOS, and Unix; or protocols, codes and systems such as secure kernels, WWW, SSL, SGML, hyptertext, Oak, Telescript, OOP and other programming technologies or frameworks (*e.g.* Smalltalk, COM, OLE, Bento, OpenDoc; object oriented databases with watermarking; obfuscation; swIPe; SNMP; auditing; on-line (or other digitally transmitted) transaction and subscription-based services and billings; electronic payment; on-line banking, entertainment and commercial interactive commerce; ATMs; encryption and authentication; physical security tools and devices; physically secure locations; physically "secure" products such as tamper resistant computer or other devices, "secure" processors, "secure" memory, "smart" cards, set-top boxes, portable devices, "secure" communications facilities, electronic wallets.[4]

III. Patent Local Rule 3-3(d) Disclosure: Invalidity For Failure to Satisfy 35 U.S.C. § 112.

Each of the asserted InterTrust patent claims is invalid as indefinite, for inadequate written description and for lack of enablement as those requirement are set forth by 35 U.S.C. § 112.[5] In accordance with Patent L.R. 3-3(d), Microsoft identifies in Appendix C, attached hereto, exemplary bases, on an element by element basis, for invalidating each asserted claim of each asserted patent for indefiniteness and lack of an adequate written description. The asserted claims are unclear in scope and not nearly as precise as the subject matter allows.

Appendix C contains examples of why the indefiniteness prohibited by 35 U.S.C. § 112(2) arises from many causes, including:

a) use of terms that lack an ordinary meaning in the art and are undefined in the specification;

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[4] These examples are not intended to be an exhaustive list and are set forth for illustrative purposes.

[5] Microsoft also asserts that one or more of the claims are invalid under 35 U.S.C. § 112(1) for failure to identify the "best mode" for carrying out the invention. However, pursuant to Patent L.R. 3-3(d), Microsoft's arguments related to that defense are not required to be set forth in the attached charts, and hence are not included in Exhibit C.

b) use of terms that are used in the specification in a manner which is internally inconsistent, as well as inconsistent with their ordinary meaning, but are not specifically defined in the specification;

c) InterTrust's refusal to identify the structure in the application's written description linked to claim elements subject to 35 U.S.C. § 112, ¶6 ("means (or step) plus function);

d) such excessive disclaimers of specificity of a term that the term becomes meaningless;

e) inconsistent uses of a term within a single specification;

f) inconsistent uses of a term between a specification and something allegedly incorporated into that specification;

g) inconsistencies within the language of a given claim;

h) inclusion of the same element twice in a claim, resulting in improper double inclusion of an element;

i) impermissible reference to trademarks in a claim;

j) inconsistent use of terms that may be synonyms for one another or that could be used to mean same thing or different things.

The indefiniteness of the asserted claims is exacerbated by InterTrust's attempt to apply these claims to the very different structures and techniques of (or those that InterTrust wrongly attributes to) the Microsoft accused products. Microsoft reserves the right to modify this listing, *e.g.*, if and when InterTrust clarifies its infringement contentions and claim construction positions.

Appendix C also provides examples of the lack of an adequate written description supporting the asserted claims. For example, the asserted claims fail for lack of an adequate written description under 35 U.S.C. § 112(1) to the extent that they are construed to contradict and/or fail to require the essential, non-optional alleged attributes of the alleged "inventions" identified in their specifications (and any specification allegedly incorporated by reference) and the applications from which the patents issued. The asserted claims also fail to comply with the

written description requirement as set forth in *Gentry Gallery, Inc v. Berkline Corp.*, 134 F.3d 1473 (Fed. Cir 1998) to the extent that the scope of any of them exceeds the scope of the alleged "invention" as set forth in the accompanying specification (and any specification allegedly incorporated therein). For example, in the specification of U.S. Patent No. 6,253,193 InterTrust states that:

> The present invention assertedly provides a new kind of "virtual distribution environment" (called "VDE" in this document) that secures, administers, and audits electronic information use. VDE also features fundamentally important capabilities for managing content that travels "across" the "information highway." These capabilities comprise a rights protection solution that serves all electronic community members. These members include content creators and distributors, financial service providers, end-users, and others. VDE is the first general purpose, configurable, transaction control/rights protection solution for users of computers, other electronic appliances, networks, and the information highway.

Accordingly any claims that rely on this specification must be limited in scope to the invention described therein. To the extent that they exceed the scope of what is described, they are invalid under the written description requirement.

Microsoft further contends that each asserted claim, when viewed in its entirety, is invalid under 35 U.S.C. § 112(1) because the specifications of the patents fail to teach one of ordinary skill in the art how to practice the entirety of the broad scope of those claims without undue experimentation.

For example, based on the specification, most if not all of the claims involve the use of software of one kind or another, yet the specification does not disclose any software programs that could be used or adapted for use in practicing the claimed inventions. In addition to failing to disclose any software program by explicit reference, the patent specifications does not describe with sufficient specificity the identity of software programs needed to practice the claimed invention that would prevent the need for undue experimentation by a person skilled in the art to practice the claimed inventions. The claims set forth a multiplicity of functions, features, and characteristics for the purported inventions, and the specifications are replete with references to software necessary to practicing the inventions, yet the specification neither identifies enabling software that satisfies such requirements, nor provides guidance that would

allow a person of ordinary skill in the art to program enabling software without undue experimentation.[6]

As shown in Appendix C[7], asserted claims contain terms that are subject to multiple definitions, and the patent specifications do not disclose one or more of the alternate definitions. The full scope of the claim is therefore not described or taught in the specification. Any claim in Appendix C that contains a claim term subject to multiple definitions fails to teach the full scope of the claim and therefore fails the enablement requirement if the specification does not specify the operative definition for the term.

There are numerous other reasons that the unprecedented breadth of scope of the claims asserted by InterTrust are not enabled, including InterTrust's failure to implement the claims after substantial investment of time, labor, and money. Given the complexity of the asserted patents and their interdisciplinary subject matter, the state of the prior art, the absence of predictability of the prior art, the amount of experimentation necessary to practice the patents, the absence of embodiments, and the absence of guidance for practicing the invention provided in the specification[8], the relative skill of those practicing the art and the breadth of the claims, the asserted claims fail to meet the enablement requirement of 35 U.S.C. § 112 ¶ 1.

The full claims of the asserted patents fail to satisfy the enablement and written description requirements for the following reasons:

The '683 Patent

Claim 2: Claim 2 of the '683 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling

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[6] In its discovery responses, InterTrust refuses to identify software programs necessary for practicing the inventions purportedly disclosed in the asserted patents. *See* InterTrust responses to Microsoft Interrogatory Nos. 39 and 40.

[7] *See* Appendix C for further element by element analysis of invalidity for failure to satisfy 35 U.S.C. § 112 ¶ 1. The indefiniteness of the claim terms addressed in Exhibit C affect enablement because the indefiniteness of the claim terms prevents the specification from adequately teaching a person of skill in the art how to make and use the full scope of the claimed inventions without undue experimentation.

[8] The failure of the specifications to provide necessary guidance also establishes that the claims fail to meet the written description requirement of 35 U.S.C. § 112 ¶ 1.

software and operation of such software on accompanying hardware. Specifically, limitations in Claim 2 (63:40-66), both explicitly and implicitly require software. Since no software is disclosed in the specification, and since the specification provides no useful programming guidance, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 2. Claim 2 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security", "secure container," "containing"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 2 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 3: Claim 3 of the '683 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 3 (64:6-30), both explicitly and implicitly require software. Since no software is disclosed in the specification, and insufficient programming guidance (if any) is provided by the specification, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 3. Claim 3 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security", "secure container," "rule"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 3 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 4: Claim 4 is dependent upon Claim 3 and thus fails the enablement and

written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 4 fails because it requires additional undisclosed software.

Claim 5: Claim 5 of the '683 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 5 (64:41-66), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 5. Claim 5 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security", "secure container," "governed item"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 5 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 6: Claim 6 is dependent upon Claim 5 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 6 fails because it requires additional undisclosed software..

Claim 28: Claim 28 of the '683 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 28 (70:20-59), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 28. Claim 28

also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security," "electronic intermediary," "being associated with . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 28 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 29: Claim 29 is dependent upon Claim 28 and fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 29 fails because it requires additional undisclosed software. Claim 29 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "operatively connected"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed

Claim 56: Claim 56 of the '683 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 56 (77:34-56), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 56. Claim 56 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security," "secure container," "secure electronic container"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated

above with respect to all of the claims, Claim 56 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 126: Claim 126 of the '683 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 126 (82:50-83:7), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 126. Claim 126 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security," "secure digital container," "trusted intermediary services"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 126 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 127: Claim 127 is dependent upon Claim 126 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 127 fails because it requires additional undisclosed software. Claim 127 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "at least in part identifies"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed

The '193 Patent

Claim 1: Claim 1 of the '193 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the

purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 1 (320:62-321:18), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 1. Claim 1 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "budget control," "secure database," "copy control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 1 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 2: Claim 2 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 2 fails because it requires additional undisclosed software. Claim 127 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "a time substantially contemporaneous"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed

Claim 3: Claim 3 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 3 fails because it requires additional undisclosed software. Claim 3 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "encumbrance on said budget"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the

full scope claimed.

Claim 4: Claim 4 is dependent upon Claim 3 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 4 fails because it requires additional undisclosed software. Claim 4 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "digital file authorized by said budget"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 11: Claim 11 of the '193 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 11 (322:22-45), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 11. Claim 11 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security," "secure memory," "features"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 11 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 15: Claim 15 of the '193 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several

limitations in Claim 15 (323:15-41), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 15. Claim 15 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security," "secure database"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 15 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 16: Claim 16 is dependent upon Claim 15 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 16 fails because it requires additional undisclosed software. Claim 16 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "authentication step"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed

Claim 19: Claim 19 of the '193 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 19 (324:9-37), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 19. Claim 19 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.*

"clearinghouse"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 19 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 51: Claim 51 of the '193 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software and operation of such software on accompanying hardware. Specifically, several limitations in Claim 51 (326:51-327:12), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 51. Claim 51 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "security," "clearinghouse," "location remote from"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 51 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

The '861 Patent

Claim 34: Claim 34 of the '861 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 34 (24:65-25:15), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make

and use the full scope of Claim 34. Claim 34 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "descriptive data structure," "element information," "metadata rules"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 34 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 35: Claim 35 is dependent on Claim 34 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 35 fails because it requires additional undisclosed software. Claim 35 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "rights management data structure"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 36: Claim 36 is dependent on Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 36 fails because it requires additional undisclosed software. Claim 36 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "content," "rules at least in part governing . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 37: Claim 37 is dependent on Claim 36 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 37 fails because it requires additional undisclosed software. Claim 37 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "descriptive data structure is stored within said first secure container"). The specification does

not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 44: Claim 44 is dependent on Claim 34 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 44 fails because it requires additional undisclosed software. Claim 44 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "representation of the format of data . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 45: Claim 45 is dependent on Claim 44 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 45 fails because it requires additional undisclosed software. Claim 45 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "information regarding elements . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 46: Claim 46 is dependent on Claim 44 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 46 fails because it requires additional undisclosed software. Claim 46 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "target data block"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 47: Claim 47 is dependent on Claim 46 and thus fails the enablement and

written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 47 fails because it requires additional undisclosed software. Claim 47 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "target data block," "target environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 48: Claim 48 is dependent on Claim 46 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 48 fails because it requires additional undisclosed software. Claim 48 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "source," "source message field"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 58: Claim 34 of the '861 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 34 (24:65-25:15), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 34. Claim 34 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "metadata information," "generating or identifying at least one rule . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims,

Claim 34 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 64: Claim 64 is dependent on Claim 58 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 64 fails because it requires additional undisclosed software. Claim 64 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "creation of said first secure container"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 67: Claim 67 is dependent on Claim 64 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 67 fails because it requires additional undisclosed software. Claim 67 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 68: Claim 68 is dependent on Claim 67 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 68 fails because it requires additional undisclosed software. Claim 68 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 71: Claim 71 is dependent on Claim 58 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 71 fails because it requires additional undisclosed software. Claim 71 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of

the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 72: Claim 72 depends to Claim 58 and fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 72 fails because it requires additional undisclosed software.

The '891 Patent

Claim 1: Claim 1 of the '891 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 1 (318:59-319:8), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 1. Claim 1 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "securely receiving," "secure operating environment," "control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 1 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 22: Claim 22 of the '891 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 22 (320:15-31) both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 22. Claim 22 also fails the enablement requirement in light of the breadth

of the subject matter claimed (*e.g.* "securely combining," "control arrangement," "securely requiring"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 22 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 23: Claim 23 is dependent on Claim 34 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 23 fails because it requires additional undisclosed software.

Claim 26: Claim 26 of the '891 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 26 (320:40-55) both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 26. Claim 26 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "composite data item," securely providing,"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 26 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 27: Claim 27 is dependent on Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 27 fails because it requires additional undisclosed software. Claim 27 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "combining step"). The specification does not teach a person of ordinary skill in the art how to

practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 28: Claim 28 is dependent on Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 28 fails because it requires additional undisclosed software. Claim 28 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "composite"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 29: Claim 29 is dependent on Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 29 fails because it requires additional undisclosed software. Claim 29 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "ensuring the integrity of said association . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 31: Claim 31 is dependent on Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 31 fails because it requires additional undisclosed software. Claim 31 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "codelivering"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 35: Claim 35 of the '891 patent fails the enablement requirement because

the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 35 (321:29-41), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 35. Claim 35 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure operating environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 35 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 36: Claim 36 of the '891 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 36 (321:44-57), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 36. Claim 36 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure operating environment system," "operatively connected," "logically associated with"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 36 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 39: Claim 39 is dependent on Claim 22 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 39 fails because it requires additional undisclosed software. Claim 39 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "persistently associating," "control arrangement"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 40: Claim 40 is dependent upon Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 40 fails because it requires additional undisclosed software. Claim 40 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "control arrangement"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 51: Claim 51 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 51 fails because it requires additional undisclosed software. Claim 51 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "end user electronic appliance," "secure processing step"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 53: Claim 53 is dependent upon Claim 22 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 53 fails because it requires additional undisclosed software. Claim 53 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "end user electronic appliance"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 54: Claim 54 is dependent upon Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 54 fails because it requires additional undisclosed software. Claim 54 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "end user electronic appliance"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 56: Claim 56 is dependent upon Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 56 fails because it requires additional undisclosed software. Claim 56 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "end user electronic appliance"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 57: Claim 57 is dependent upon Claim 36 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 57 fails because it requires additional undisclosed software. Claim 57 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "end user electronic appliance," "protected processing environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 58: Claim 58 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 58 fails because it requires additional undisclosed software. Claim 58 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "entity's control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 60: Claim 60 is dependent upon Claim 22 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 60 fails because it requires additional undisclosed software. Claim 60 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "supplying," "control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 61: Claim 61 is dependent upon Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 61 fails because it requires additional undisclosed software. Claim 61 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "providing"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 63: Claim 63 is dependent upon Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 63 fails because it requires additional undisclosed software. Claim 63 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "securely receiving"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 64: Claim 64 is dependent upon Claim 36 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 64 fails because it requires additional undisclosed software. Claim 64 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "controls"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 65: Claim 65 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 65 fails because it requires additional undisclosed software. Claim 65 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure processing environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 67: Claim 67 is dependent upon Claim 22 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 67 fails because it requires additional undisclosed software. Claim 67 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure processing environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 68: Claim 68 is dependent upon Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 68 fails because it requires additional undisclosed software. Claim 68 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure processing environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 70: Claim 70 is dependent upon Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 70 fails because it requires additional undisclosed software. Claim 70 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure processing environment," "securely processing," "securely executing"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 71: Claim 71 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 71 fails because it requires additional undisclosed software. Claim 71 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "securely combining," "control arrangement"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 74: Claim 74 is dependent upon Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 74 fails because it requires additional undisclosed software. Claim 74 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "securely combining," "combined executable"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 75: Claim 75 is dependent upon Claim 36 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 75 fails because it requires additional undisclosed software. Claim 75 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "combined control arrangement"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 76: Claim 76 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 76 fails because it requires additional undisclosed software. Claim 76 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "securely receiving steps," "independently performed at different times"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 79: Claim 79 is dependent upon Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 79 fails because it requires additional undisclosed software.

Claim 81: Claim 81 is dependent upon Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 81 fails because it requires additional undisclosed software. Claim 81 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "securely receiving steps"). The specification does not teach a person of ordinary

skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 82: Claim 82 is dependent upon Claim 36 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 82 fails because it requires additional undisclosed software. Claim 82 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "controls"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 84: Claim 84 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 84 fails because it requires additional undisclosed software. Claim 84 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "first/second entity's control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 86: Claim 86 is dependent upon Claim 26 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 86 fails because it requires additional undisclosed software. Claim 86 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 88: Claim 88 is dependent upon Claim 36 and thus fails the enablement

and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 88 fails because it requires additional undisclosed software. Claim 88 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 89: Claim 89 is dependent upon Claim 1 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 89 fails because it requires additional undisclosed software. Claim 89 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "control," "protected processing environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 91: Claim 91 is dependent upon Claim 22 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 91 fails because it requires additional undisclosed software. Claim 91 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 94: Claim 94 is dependent upon Claim 35 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 94 fails because it requires additional undisclosed software. Claim 94 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake

undue experimentation in order to make and use the invention across the full scope claimed.

Claim 95: Claim 95 is dependent upon Claim 36 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 95 fails because it requires additional undisclosed software. Claim 95 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

The '912 Patent

Claim 6: Claim 6 of the '912 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 6 (326:65-327:23), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 6. Claim 6 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "relatively lower level of security," "private portion characterized by . . . ," "accessing," "record"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 6 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 7: Claim 7 is dependent upon Claim 8 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 7 fails because it requires additional undisclosed software. Claim 7 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.*

"relatively higher/lower level of security"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 8: Claim 8 of the '912 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 8 (_____), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 8. Claim 8 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "higher/lower level of security," "execution space identifier," "assembling"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 8 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 9: Claim 9 is dependent upon Claim 8 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 9 fails because it requires additional undisclosed software.

Claim 13: Claim 13 is dependent upon Claim 8 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 13 fails because it requires additional undisclosed software. Claim 13 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "a security level higher that that of the execution space,"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the

invention across the full scope claimed.

Claim 14: Claim 14 is dependent upon Claim 13 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 14 fails because it requires additional undisclosed software.

Claim 35: Claim 35 of the '912 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 35 (330:27-57), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 35. Claim 35 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "second processing environment remote from first processing environment," "identification information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 35 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

The '900 Patent

Claim 155: Claim 155 of the '900 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 155 (370:30-55), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 155. Claim 155 also fails the enablement requirement in light of

the breadth of the subject matter claimed (*e.g.* "host processing environment," "tamper resistant software designed to be loaded into said main memory . . .," "machine check programming which derives information . . .," "integrity programming"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 155 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 156: Claim 156 of the '900 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 156 (370:57-371:15), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 156. Claim 156 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "virtual distribution environment," "host processing environment," "tamper resistant software designed to be loaded into said main memory . . .," "machine check programming which derives information . . .," "integrity programming"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 156 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 157: Claim 157 of the '900 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 157 (371:16-42), both explicitly and

implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 157. Claim 157 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "virtual distribution environment," "host processing environment," "tamper resistant software designed to be loaded into said main memory . . .," "machine check programming which derives information . . .," "integrity programming"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 157 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

The '721 Patent

Claim 1: Claim 1 of the '721 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 1 (21:10-24), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 1. Claim 1 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "load module," "tamper resistance," "security level"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 1 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 5: Claim 5 of the '721 patent fails the enablement requirement because the

specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 5 (21:39-47), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 5. Claim 5 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "software verifying method," "specification"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 5 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 9: Claim 9 of the '721 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 9 (22:5-15), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 9. Claim 9 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "distinguishing between trusted and untrusted load modules . . ." "associated digital signature," "conditionally executing"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 9 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 14: Claim 14 of the '721 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 14 (22:44-51), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 14. Claim 14 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "arrangement within the first tamper resistant barrier that prevents . . .,"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 14 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 18: Claim 18 of the '721 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 18 (22:64-25:3), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 18. Claim 18 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "preventing the first computing arrangement . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 18 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 34: Claim 34 of the '721 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 34 (24:47-56), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 34. Claim 34 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure execution space," "security level"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 34 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 38: Claim 38 of the '721 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 38 (25:1-8), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 38. Claim 38 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "computing arrangement surrounded by a first tamper resistant barrier . . . ," "security level"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 38 fails the enablement and written description requirements of 35 U.S.C.

§ 112 ¶ 1.

The '019 Patent

Claim 1: Claim 1 of the '019 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 1 (319:46-320:7), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 1. Claim 1 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "associated control," "protected," transferring," "protected content file") The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 1 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 33: Claim 33 of the '019 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 33 (323:60-324:14), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 33. Claim 33 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for incorporating," "means for transferring," "protected data") The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope

claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 33 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 34: Claim 34 is dependent upon Claim 33 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 34 fails because it requires additional undisclosed software. Claim 34 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for applying"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 35: Claim 35 is dependent upon Claim 34 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 35 fails because it requires additional undisclosed software. Claim 35 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for applying"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 41: Claim 41 of the '019 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 41 (325:7-29), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 41. Claim 41 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "virtual distribution environment") The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person

of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 41 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 42: Claim 42 is dependent upon Claim 41 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 42 fails because it requires additional undisclosed software. Claim 42 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "control," "protected information," "secure container"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 47: Claim 47 is dependent upon Claim 41 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 47 fails because it requires additional undisclosed software. Claim 47 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 52: Claim 52 is dependent upon Claim 41 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 52 fails because it requires additional undisclosed software. Claim 52 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "creating" "secure container," "site"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 53: Claim 53 is dependent upon Claim 52 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 53 fails because it requires additional undisclosed software. Claim 53 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "associated"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 54: Claim 54 is dependent upon Claim 53 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 54 fails because it requires additional undisclosed software. Claim 54 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "associated"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 55: Claim 55 is dependent upon Claim 54 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 55 fails because it requires additional undisclosed software. Claim 55 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "site"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 64: Claim 64 is dependent upon Claim 54 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 64 fails because it requires additional undisclosed software. Claim 64 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "portion of said first protected information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 76: Claim 76 is dependent upon Claim 41 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 76 fails because it requires additional undisclosed software. Claim 76 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure container," "contained"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 78: Claim 78 is dependent upon Claim 52 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 78 fails because it requires additional undisclosed software. Claim 78 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure container," "contained"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 81: Claim 81 of the '019 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 81 (328:9-23), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 81. Claim 81 also fails the enablement requirement in light of the breadth

of the subject matter claimed (*e.g.* "means for incorporating") The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 81 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 82: Claim 82 is dependent upon Claim 81 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 82 fails because it requires additional undisclosed software. Claim 82 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for applying," "govern"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 83: Claim 83 is dependent upon Claim 82 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 83 fails because it requires additional undisclosed software. Claim 83 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "govern," "means for applying"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 85: Claim 85 of the '019 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 85 (328:28-56), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of

trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 85. Claim 85 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "creating," "copying," transferring"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 85 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 87: Claim 87 is dependent upon Claim 85 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 87 fails because it requires additional undisclosed software. Claim 87 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "copied," "protected information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 89: Claim 89 is dependent upon Claim 85 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 89 fails because it requires additional undisclosed software. Claim 89 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "copying," "transferring"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 90: Claim 90 is dependent upon Claim 85 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 90 fails because it requires additional undisclosed software. Claim 90 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "memory"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 93: Claim 93 is dependent upon Claim 85 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 93 fails because it requires additional undisclosed software. Claim 93 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "copying transferring"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 94: Claim 94 is dependent upon Claim 85 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 89 fails because it requires additional undisclosed software.

Claim 95: Claim 95 is dependent upon Claim 94 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 95 fails because it requires additional undisclosed software. Claim 95 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "copied," "protected information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 96: Claim 96 of the '019 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 96 (329:38-330:12), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no

meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 96. Claim 96 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "virtual distribution environment," "protected information") The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 96 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

The '876 Patent

Claim 2: Claim 2 of the '876 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 2 (319:20-32), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 2. Claim 2 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for . . . securely integrating," "value chain extended agreement"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 2 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 11: Claim 11 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 11 fails because it requires additional undisclosed software. Claim 11 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.*

"Virtual Distribution Environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 29: Claim 29 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 29 fails because it requires additional undisclosed software. Claim 29 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure control," "required terms"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 32: Claim 32 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 32 fails because it requires additional undisclosed software. Claim 32 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure control," "required terms"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 60: Claim 60 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 60 fails because it requires additional undisclosed software. Claim 60 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "secure control," "required terms"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 130: Claim 130 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 29 fails because it requires additional undisclosed software. Claim 29 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for executing . . . control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 132: Claim 132 is dependent upon Claim 130 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 132 fails because it requires additional undisclosed software. Claim 132 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "protected processing environment"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 161: Claim 161 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 161 fails because it requires additional undisclosed software. Claim 161 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "machine executable controls"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 162: Claim 162 is dependent upon Claim 161 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 162 fails because it requires additional undisclosed software Claim 162 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "data descriptor data structures"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 170: Claim 170 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 170 fails because it requires additional undisclosed software. Claim 170 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for creating a first secure control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 171: Claim 171 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 171 fails because it requires additional undisclosed software. Claim 171 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for creating . . . secure control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 172: Claim 172 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 172 fails because it requires additional undisclosed software. Claim 172 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means . . . for securely integrating"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 329: Claim 329 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 329 fails because it requires additional undisclosed software. Claim 329 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means for creating . . . secure control"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 331: Claim 331 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 331 fails because it requires additional undisclosed software. Claim 331 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means . . . for securely integrating," "based on or compatible with . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 346: Claim 346 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 346 fails because it requires additional undisclosed software. Claim 346 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means by which said third control set governs . . ."). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 347: Claim 347 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 347 fails because it requires additional undisclosed software. Claim 347 also fails the enablement requirement in light of the breadth of the subject matter

claimed (*e.g.* "means by which said third control set governs the execution of at least one method"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 349: Claim 349 is dependent upon Claim 2 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 349 fails because it requires additional undisclosed software. Claim 349 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "means by which said third control set governs the execution of at least one procedure"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

The '181 Patent

Claim 48: Claim 48 of the '181 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 48 (48:17-38), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 48. Claim 48 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "narrowcasting selected digital information," secure node," "information derived in part from specified recipient's creation"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons

stated above with respect to all of the claims, Claim 48 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 59: Claim 59 is dependent upon Claim 48 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 59 fails because it requires additional undisclosed software. Claim 59 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 61: Claim 61 is dependent upon Claim 48 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 61 fails because it requires additional undisclosed software. Claim 61 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "entertainment information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 63: Claim 63 is dependent upon Claim 48 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 63 fails because it requires additional undisclosed software. Claim 63 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "music information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 67: Claim 67 is dependent upon Claim 48 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 67 fails because it requires additional undisclosed software.

Claim 67 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "digital certificate information"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 70: Claim 70 is dependent upon Claim 48 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 70 fails because it requires additional undisclosed software. Claim 70 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 72: Claim 72 is dependent upon Claim 48 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 72 fails because it requires additional undisclosed software. Claim 72 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 75: Claim 75 is dependent upon Claim 72 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 75 fails because it requires additional undisclosed software. Claim 75 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "acceptable clearinghouse," "rights and permissions clearinghouse"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 89: Claim 89 is dependent upon Claim 48 and thus fails the enablement

and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above.

Claim 91: Claim 91 of the '181 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 91 (86:47-87:4), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use the full scope of Claim 91. Claim 91 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "narrowcasting selected digital information," secure node," "information derived in part from specified recipient entity's creation"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 91 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

Claim 104: Claim 104 is dependent upon Claim 91 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 104 fails because it requires additional undisclosed software. Claim 104 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 109: Claim 109 is dependent upon Claim 91 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 109 fails because it requires additional undisclosed software. Claim 109 also fails the enablement requirement in light of the breadth of the subject matter claimed. The specification does not teach a person of ordinary skill in the art how to practice the

full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 114: Claim 114 is dependent upon Claim 91 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 114 fails because it requires additional undisclosed software. Claim 114 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "clearinghouse acceptable to rightsholders"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 117: Claim 117 is dependent upon Claim 114 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above. In addition, the limitation of Claim 117 fails because it requires additional undisclosed software. Claim 117 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "rights and permissions clearinghouse"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed.

Claim 131: Claim 131 is dependent upon Claim 91 and thus fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1 for the reasons stated above.

The '402 Patent

Claim 1: Claim 1 of the '402 patent fails the enablement requirement because the specification does not teach a person of ordinary skill in the relevant arts how to practice the purportedly disclosed invention without undue experimentation in the development of enabling software. Specifically, several limitations in Claim 1 (322:5-25), both explicitly and implicitly require software. Since no software is disclosed in the specification, and no meaningful programming guidance is provided, a person of skill in the art would have to engage a process of trial and error, perhaps followed by bottom up software development, in order to make and use

the full scope of Claim 1. Claim 1 also fails the enablement requirement in light of the breadth of the subject matter claimed (*e.g.* "creating," "having associated a first control" "value chain extended agreement," "transferring"). The specification does not teach a person of ordinary skill in the art how to practice the full scope of the claim, and a person of skill in the art would therefore be required to undertake undue experimentation in order to make and use the invention across the full scope claimed. For these reasons and for the reasons stated above with respect to all of the claims, Claim 1 fails the enablement and written description requirements of 35 U.S.C. § 112 ¶ 1.

IV. Patent L.R. 3-4

Each reference identified pursuant to PLR 3-3(a) but not in the prosecution history, and the documents referenced in PLR 3-4 that are sufficient to show the operation of the accused features of the products specifically and properly identified in InterTrust's PLR 3-1 Statements of September 2, 2003, has been or is being produced, or is otherwise available for inspection and copying. As set forth in greater detail in Microsoft's Motion to Strike InterTrust's Infringement Contentions (filed October 8, 2003), InterTrust's Infringement Contentions pursuant to PLR 3-1 largely fail to properly identify the "accused instrumentalities." Accordingly, Microsoft reserves its right to modify this production, if necessary. Microsoft has specifically sought, and has been granted, greater protection and confidentiality for its source code than that provided by Patent Local Rule 2-2. Source code for the Accused Instrumentalities is being made available for inspection at the offices of Orrick, Herrington & Sutcliffe LLP only in accordance with

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Magistrate James' Order of November 5, 2003. Microsoft does not concede that any source code made available for inspection (or any corresponding product or software) is or should be considered an Accused Instrumentality.

Dated: November 17, 2003

WILLIAM L. ANTHONY
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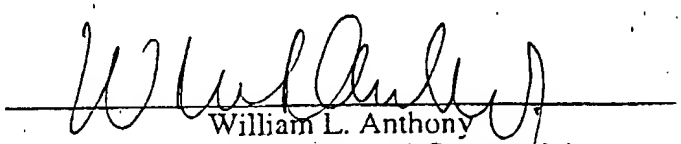

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InterTrust Tech. Corp. v. Microsoft Corp.
Case No. C 01-1640 SBA (MEJ)

APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
	Yes	Lacy, Jack; Snyder, James; Maher, David; "Music on the Internet and the Intellectual Property Protection Problem"
Y	Yes	"The PowerTV White Paper", powertv.com website, Oct. 11, 1996
Y	Yes	Coutrot, Francois; Michon, Vincent; "A Single Conditional Access System for Satellite-Cable and Terrestrial TV" IEEE Transactions on Consumer Electronics, Vol. 35, No. 3, Aug. 1989
Y	Yes	"ISO 8583: Financial transaction card originated messages - Interchange message specifications", ISO, Dec. 15, 1993
Y	Yes	Harty, Kieran; Ho, Linda; "Case Study: The VISA Transaction Processing System", May 30, 1988
Y	Yes	U.S. 4,584,639; Apr. 22, 1986
	Yes	Denning, Dorothy E.; "Secure Personal Computing in an Insecure Network", Comm. of the ACM, Vol. 22, No. 8, Aug. 1979
	Yes	Muftic, Sead; "Security Mechnisms for Computer Networks", Computer Communications and Networking, 1989
Y	Yes	Kim, Gene H.; Spafford, Eugene H.; "The Design and Implementation of Tripwire: A File System Integrity Checker", COAST Laboratory, Purdue University, Nov. 19, 1993
Y	Yes	Choudhury, Abhijit K.; Maxemchuk, Nicholas F.; Paul, Sanjoy; Schulzrinne, Henning G.; "Copyright Protection for Electronic Publishing Over Computer Networks", IEEE Network, May/Jun., 1995
	Yes	Denning, Dorothy E.R.; Cryptorgraphy and Data Security, Addison-Wesley Publishing Company, 1982, Reprinted with corrections, Jan. 1983
	Yes	Hellman; "Multi-user Cryptographic Techniques"
	Yes	Diffie, Whitfield; Hellman, Martin E; "New Directions in Cryptography", Stanford University, 1976
Y	Yes	Kohl, J.; Neuman, C.; "The Kerberos Network Authentication Service (V5)", Network Working Group RFC 1510, Sep. 1993
	Yes	Diffie, Whitfield; van Oorschot, Paul C.; Weiner, Michael J.; "Authentication and Authenticated Key Exchanges", Sun Microsystems and Bell-Northern Research, Mar. 6, 1992
	Yes	Diffie, Whitfield; "The First Ten Years of Public-Key Cryptography", Proceedings of the IEEE, Vol. 76, No. 5, May, 1988
	Yes	Kohnfelder, Loren M.; "Towards a Practical Public-Key Cryptosystem", May, 1978
	Yes	Kaliski, Jr., Burton S.; "A Layman's Guide to a Subset of ASN.1, BER, and DER", RSA Laboratories Technical Note, 1991, Revised Nov. 1, 1993
Y	Yes	"PKCS #7: Cryptographic Message Syntax Standard", RSA Laboratories Technical Note, Ver. 1.5, Revised Nov. 1, 1993
	Yes	Walker, Stephen; "Notes from RSA Data Security Conference", Trusted Information Systems, Jan. 18, 1994
Y	Yes	Tygar, J.D.; Yee, Bennet; "Cryptography: It's Not Just for Electronic Mail Anymore", Carnegie Mellon University Tech. Report CMU-CS-93-107, Mar. 1, 1993
	Yes	U.S. 4,658,093; Apr. 14, 1987
Y	Yes	U.S. 4,405,829; Sep. 20, 1983
Y	Yes	Schneier, Bruce; Applied Cryptography: Protocols, Algorithms, and Source Code in C, John Wiley & Sons, Inc., 1994

* Any possible "Y"s that were missed shall not negate the anticipatory nature of a reference, particularly where there is a chart in Appendix B.

InterTrust Tech. Corp. v. Microsoft Corp.
Case No. C 01-1640 SBA (MEJ)

APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
Y	Yes	Popek, Gerald J.; Kline, Charles S.; "Encryption and Secure Computer Networks", ACM Computing Surveys, Vol. 11, No. 4, Dec. 1979
	Yes	Diffie, Whitfield; Hellman, Martin E; "New Directions in Cryptography", Stanford University, 1976
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Y	Yes	"THOR: A Distributed Object-Oriented Database System", MIT
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Y	Yes	Mathy, Laurent; "Features of The ACCOPI Multimedia Transport Service", Lecture Notes in Computer Science, No.1045, Proc. Of European Workshop IDMS'96, Mar. 1996; "Access Control and COpyright Protection for Images Security Technology for Graphics and Communication Systems - RACE M1005: ACCOPI", webpage, Security Projects at Fraunhofer-IGD, 2002; ACCOPI RACE Project M1005 Warning of ACCOPI web pages removal, UCL Laboratoire de telecommunications et teledetection
Y	Yes	"The Amide Products" web page; "Forum on Technology-Based Intellectual Property Management - Electronic Commerce for Content", IMA Intellectual Property Proceedings, Vol. 2, Jun. 1996
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	Yes	Wayner, Peter; Digital Copyright Protection, Academic Press, 1997
	Yes	"Cryptolope Containers Technology: A White Paper", IBM InfoMarket Business Development Group
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	Yes	White, James E.; "Telescript: The Foundation for the Electronic Marketplace", Ver. 5.0, General Magic, Inc., Nov. 30, 1993
	Yes	Ketchpel, Steve P.; Garcia-Molina, Hector; Paepcke, Andreas; "Shopping Models: A Flexible Architecture for Information Commerce", Stanford University
	Yes	Lagoze, Carl; "A Secure Repository Design for Digital Libraries", D-Lib Magazine, Dec. 1995
Y	Yes	"Introduction to Smart Cards v. 1.0", Gemplus Card International, Mar. 21, 1991
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Y	Yes	Tygar, J.D.; Yee, Bennet; "Dyad: A System for Using Physically Secure Coprocessors", IMA Intellectual Property Project Proceedings, Vol. 1, Issue 1, Jan. 1994
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Y	Yes	FreeBSD System manager's Manual "LDCONFIG", Oct. 3, 1993
	Yes	"Requirements for the Software License Management System", System Management Work Group, Rev. 3, Unix International, Jul. 23, 1992
Y	Yes	Film canister
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	Yes	Central Point Anti-Virus, Central Point Software, 1993
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	Yes	StuffIt Deluxe v.1.5, v.3.0, v.3.5, Aladdin Systems, 1988-1994
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Y	Yes	Rozenblit, Moshe; "Secure Software Distribution", IEEE 0-7803-1811-0/94, 1994
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	Yes	U.S. 4,278,837; Jul. 14, 1981
	Yes	U.S. 3,806,874; Apr. 23, 1974
Y	Yes	U.S. 4,748,561; May 31, 1988
Y	Yes	U.S. 4,796,220; Jan. 3, 1989
	Yes	U.S. 4,817,140; Mar. 28, 1989
Y	Yes	U.S. 4,866,769; Sep. 12, 1989
Y	Yes	U.S. 5,014,234; May 7, 1991
Y	Yes	U.S. 5,113,518; May 12, 1992
	Yes	U.S. 5,204,897; Apr. 20, 1993
	Yes	U.S. 5,218,605; Jun. 8, 1993
Y	Yes	U.S. 5,260,999; Nov. 9, 1993
Y	Yes	U.S. 5,291,598; Mar. 1, 1994
Y	Yes	U.S. 5,337,357; Aug. 9, 1994
	Yes	U.S. 5,421,006; May 30, 1995
	Yes	U.S. 5,438,508; Aug. 1, 1995
	Yes	U.S. 5,490,216; Feb. 6, 1996
Y	Yes	U.S. 5,603,031; Feb. 11, 1997

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	Yes	U.S. 5,724,425; Mar. 3, 1998
	Yes	U.S. 5,940,504; Aug. 17, 1999
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	Yes	Woo, Thomas Y.C.; Lam, Siman S.; "A Framework for Distributed Authorization", 1st Conf. Computer & Comm. Security, ACM, Nov., 1993
	Yes	Sandhu, Ravi S.; Suri, Gurpreet S.; "Implementation Considerations for the Typed Access Matrix Model in a Distributed Environment", Proc. Of the 15th National Computer Security Conference, Oct. 1992
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	Yes	Rosenthal, Doug; "EINet: A Secure, Open Network for Electronic Commerce", IEEE, 1994
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	Yes	"Privacy and the NII: Safeguarding Telecommunications-Related Personal Information", U.S. Dept. of Commerce, Oct. 1995
	Yes	Joseph Ebersole, Protecting Intellectual Property Rights on the Information Superhighways, Mar. 1994
Y	Yes	Herzberg, Amir; Printer, Shlomit S.; "Public Protection of Software", ACM Transactions on Computer Systems, Vol. 5, No. 4, Nov. 1987
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	Yes	Gosler, James; "Software Protection: Myth or Reality", Lecture Notes in Computer Science, Advances in Cryptology - Crypto '85 Proceedings, 1985
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	Yes	Antonelli, C.J.; Doster, W.A.; Honeyman, P.; "Access Control in a Workstation-Based Distributed Computing Environment", CITI Technical Report 90-2, Jul. 17, 1990
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	Yes	Bishop, Matt; "Privacy-Enhanced Electronic Mail", Privacy and Security Researh Group, IAB
Y	Yes	Kim, Won; Ballou, Nat; Chou, Hong-Tai; Garza, Jorge F.; Woelk, Darrell; "Features of the ORION Object-Oriented Database System"
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Y	Yes	Davies, D.W.; Price, W.L.; Security for Computer Networks, John Wiley & Sons, 1984
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	Yes	Wells, Rob; Odyssey of Plastic Purchase: 20-Second Round-Trip, Associated Press, Dec. 1993
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	Yes	"EFT Network Data Book - 1993 Edition", Bank Network News, Vol. 11, No. 13, Nov. 1992
	Yes	"American National Standard: Specification for Financial Message Exchange Between Card Acceptor and Acquirer, X9.15", American Banker's Association, 1990
	Yes	"ISO 7813-1987 Identification Cards - Financial Transaction Cards", ISO, 1987
Y	Yes	MSDN Issue: Summer 1992; Vol. No.: 0 (Beta); 1 Disk, Microsoft, 1992
Y	Yes	MSDN Issue: Sep. 1992; Vol. No.: 1; 1 Disk, Microsoft, Sep. 1992
Y	Yes	MSDN Issue: Jan 1993; Vol. No. 2; 1 Disk, Microsoft, Jan. 1993
Y	Yes	MSDN Issue: Apr. 1993; Vol. No. 3; 1 Disk, Microsoft, Apr. 1993
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Y	Yes	MSDN Issue: Fall 1993; Vol. No. 5; 1 Disk, Microsoft, Oct. 1993
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Y	Yes	MSDN Issue: Apr. 1994; Vol. No. 7; 1 Disk, Microsoft, Apr. 1994
Y	Yes	MSDN Issue: Jul. 1994; Vol. 8; 1 Disk, Microsoft, Jul. 1994
Y	Yes	MSDN Issue: Oct. 1994; Vol. 9; 1 Disk, Microsoft, Oct. 1994
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Y	Yes	MSDN Issue: Jul. 1995; Vol. 12; 1 Disk, Microsoft, Jul. 1995
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Y	Yes	MSDN Issue: Apr. 1996; Vol. 15; 2 Disks, Microsoft, Apr. 1996
Y	Yes	MSDN Issue: Jul. 1996; Vol. 16; 1 Disk, Microsoft, Jul. 1996
Y	Yes	MSDN Issue: Oct. 1996; Vol. 17; 2 Disks, Microsoft, Oct. 1996
Y	Yes	MSDN Issue: Jan 1997; Vol. 18; 2 Disks, Microsoft, Jan. 1997
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Y	Yes	MSDN Issue: Oct. 1997; Vol. No. 24; 2 Disks, Microsoft, Oct. 1997
Y	Yes	MSDN Issue: Visual Studio 1997; Vol. No. 191; 1 Disk, Microsoft, 1997
Y	Yes	MSDN Issue: Jan. 1998; Vol. No. 27; 2 Disks, Microsoft, Jan. 1998
Y	Yes	MSDN Issue: Apr. 1998; Vol. No. 30; 2 Disks, Microsoft, Apr. 1998
Y	Yes	MSDN Issue: Jul. 1998; Vol. No. 33; 3 Disks, Microsoft, Jul. 1998
Y	Yes	MSDN Issue: Oct. 1998; Vol. No.: None; 3 Disks, Microsoft, Oct. 1998
Y	Yes	MSDN Issue: Jan 1999; Vol. No.: None; 3 Disks, Microsoft, Jan. 1999
Y	Yes	MSDN Issue: Apr. 1999; Vol. No.: None; 3 Disks, Microsoft, Apr. 1999
Y	Yes	MSDN Issue: Jul. 1999; Vol. No.: None; 3 Disks, Microsoft, Jul. 1999
Y	Yes	MSDN Issue: Oct. 1999; Vol. No.: None; 3 Disks, Microsoft, Oct. 1999
Y	Yes	Chaum, David; Smart Card 2000, Selected Papers from the Second International Smart Card 2000 Conference, Oct. 4-6, 1989
Y	Yes	CD Jukebox
	Yes	U.S. Patent No. 4,926,480; May 15, 1990
	Yes	U.S. Patent No. 4,529,870; Jul. 16, 1985
	Yes	Meyer, Carl H.; Matyas, Stephen M.; Cryptography: A New Dimension in Computer Security, John Wiley & Sons, New York, 1982
	Yes	"Interchange Message Specification for Debit and Credit Card Message Exchange Among Financial Institutions", American National Standard, Accredited Standards Committee X9-Financial Services Committee, ANSI X9.2-1988, American Bankers Association, May 16, 1988
Y	Yes	Excerpts from Jul. 1993 MSDN disks, Jul. 1993
Y	Yes	Cox, Benjamin; Tygar, J.D.; Sirbu, Marvin; "NetBill Security and Transaction Protocol", Carnegie Mellon University
	Yes	Cox, Brad; "What if there is a Silver Bullet and the competition gets it first?", Journal of Object-oriented Programming, Jun. 1992
Y	Yes	"CITED Final Report: A Guide to CITED Documentation", ESPRIT, Project 5469, ISBN 0-7123-2115-2, The CITED Consortium, Sep. 1994
Y	Yes	Boisson, Jean-Francois; "1 - Business Perspectives and Requirements, 2 - The CITED Project: keys and knowledge", CITED 5469
Y	Yes	Van Slype, Georges; "Knowledge Economy: future trends", CITED 5469
Y	Yes	Boisson, Jean-Francois; "Software components: deliverable Trial Offer", CITED 5469
Y	Yes	Van Slype, Georges; "The CITED approach, Ver. 4.0", ESPRIT II, Project 5469, The CITED Consortium, Apr. 20, 1994
Y	Yes	Moens, Jan; "Report on the users requirements, Ver. 1.0", ESPRIT II, Project 5469, The CITED Consortium, Nov. 27, 1991
Y	Yes	Schulze, Dr. J.; "Case of application of the generic CITED Model to the CITEDisation in the software distribution process", ESPRIT II, Project , Jan. 12, 1993
Y	Yes	Moens, Jan; "Case of application of the generic CITED Model to the CITEDisation of a directory database on CD-ROM, Ver. 2.0", ESPRIT II, Project 5469, The CITED Consortium, Nov. 30, 1992
Y	Yes	Pijnenborg, Mari F.J.; "CITED Final Report", Elsevier Science B.V., Apr. 1994

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Anticipates	Renders Obvious	Description
Y	Yes	Boisson, Jean-Francois; "How to CITEDise application: Guidelines and examples", CITED 5469
Y	Yes	Nguyen, Thanh; Saint Etienne, Patricia Louise (SAGEM); "Guidelines for Validation of a CITED System", CITED 5469, SA-21-40-003, Jul. 4, 1994
Y	Yes	Van Slype, Georges; "The future of CITED: a feasibility study, Ver. 1.1 - Vol. I: Summary report and recommendations", ESPRIT II, Project 5469, The CITED Consortium, Mar. 28, 1994
Y	Yes	Van Slype, Georges; "The future of CITED: a feasibility study, Ver. 1.1 - Vol. III: Draft CITED interchange formats", ESPRIT II, Project 5469, The CITED Consortium, Mar. 28, 1994
Y	Yes	"CITED: Copyright in Transmitted Electronic Documents, Special Interest Group", CITED, Meeting, Heathrow, Sep. 22, 1993
Y	Yes	Miscellaneous letters from Georges Van Slype at Bureau Van Dijk, Mar. 30, 1995
Y	Yes	Pijnenborg, Mari F.J.; "auteursrecht en de digitale bibliotheek", 195 Open, Jan. 37, 1995
Y	Yes	Miscellaneous letters from Georges Van Slype at Bureau Van Dijk, Feb. 13, 1995, Nov. 2, 1994
Y	Yes	Van Slype, Georges; "PL4 RACE/ACCOPI Workshop on Conditional Access and Copyright Protection", ESPRIT II, Project 5469, The CITED Consortium, Nov. 9, 1994
Y	Yes	Miscellaneous letters from G. Van Slype at Bureau Van Dijk, Sep. 12, 1994, Sep. 1994, May 11, 1994, May 10, 1994, May 6, 1994, May 4, 1994, Apr. 21, 1994, Apr. 20, 1994
Y	Yes	Letter re: ESPRIT III – Project 5469 (CITED) from A. Stajano at Commission of the European Communities, Oct. 7, 1993
Y	Yes	ESPRIT Project: 5469: Contract Amendment Number: 2; Commission of the European Communities, Sep. 16, 1993
Y	Yes	Miscellaneous letters from George Van Slype at Bureau Van Dijk, Apr. 19, 1994, Apr. 18, 1994, Apr. 11, 1994, Apr. 6, 1994
Y	Yes	"The Future of Cited: A Feasibility Study", ESPRIT II, Project 5469, The CITED Consortium Apr. 15, 1994
Y	Yes	Miscellaneous letters from Bureau Van Dijk, Mar. 30, 1994, Mar. 24, 1994, Feb. 10, 1994, Feb. 10, 1994
Y	Yes	Handwritten note re: GVS and AJL, Mar. 2, 1994
Y	Yes	Miscellaneous letters from Bureau Van Dijk, Feb. 9, 1994, Jan. 27, 1994, Jan. 19, 1994, Jan. 12, 1994, Dec. 22, 1993, Nov. 30, 1993, Nov. 22, 1993, Dec. 6, 1993, Nov. 16, 1993, Oct. 15, 1993, Oct. 7, 1993, Oct. 4, 1993, Sep. 20, 1993, Sep. 7, 1993, May 19, 1993, Oct. 13, 1993
Y	Yes	Bureau Van Dijk Management Report for Task 4.5: Feasibility Study of the Cited Agency, 1992-1993
Y	Yes	Bureau van Dijk: Gestion des contrats; 497C C.C.E. : CITED (SUITE), Feb. 1993
Y	Yes	"CITED: Preparation of the CITED model functional requirements specifications – Discussion paper (revision 1)", Bureau Van Dijk, Jan. 16, 1991

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Y	Yes	"CITED: Preparation of the CITED Model Functional Requirements Specifications – Report of the interview with OXFORD UNIVERSITE PRESS, CITED part", Bureau Van Dijk, Feb. 27, 1991
Y	Yes	"CITED: Preparation of the CITED Model Functional Requirements Specifications – Reports of the interviews with five CITED Partners" (Partners: Sagem, Telesystemes, NTE, Elsevier, Oxford University Press), Bureau Van Dijk, Apr. 5, 1991
Y	Yes	"CITED: Preparation of the CITED Model Functional Requirements Specifications – Reports of the interviews with Seven International Organizations: EBU, ECMA, ELDA, IFPI, IFTC, STM, WIPO", Bureau Van Dijk, May 27, 1991
Y	Yes	Van Slype, Georges; Moens, Jan; Vannieuwenhuyse, Lawrence; "The future of CITED: a feasibility study", ESPRIT II, Project 5469, The CITED Consortium, Nov. 15, 1993
Y	Yes	Van Slype, Georges; "Draft CITED interchange formats, Ver. 1.0", ESPRIT II, Project 5469, The CITED Consortium, Jan. 28, 1994
Y	Yes	Miscellaneous letter from Georges Van Slype at Bureau Van Dijk, Feb. 28, 1994
Y	Yes	Van Slype, Georges; "The future of CITED : a feasibility study, Ver. 1.0 – Vol. I: Summary report and recommendations", ESPRIT II, Project 5469, The CITED Consortium, Feb. 28, 1994
Y	Yes	Van Slype, Georges; Moens, Jan; Vannieuwenhuyse, Laurence; "The future of CITED: a feasibility study, Ver. 1.0 – Vol. II: Full report", ESPRIT II, Project 5469, The CITED Consortium, Feb. 28, 1994
Y	Yes	Van Slype, Georges "The future of CITED: a feasibility study, Ver. 1.1 – Vol. III: Draft CITED interchange formats", ESPRIT II, Project 5469, The CITED Consortium, Feb. 28, 1994
Y	Yes	"The Future of Cited: A Feasibility Study", ESPRIT II, Project 5469, CITED Project Review, Apr. 15, 1994
Y	Yes	Van Slype, Georges; "PL4 RACE/ACCOPI Workshop on Conditional Access and Copyright Protection", ESPRIT II, Project 5469, Presentation of the CITED, Nov. 9, 1994
Y	Yes	Van Slype, Georges; "Natural Language version of the generic CITED model, Ver. 4.2 – Vol. I: Presentation of the generic model", ESPRIT II, Project 5469, The CITED Consortium, May 8, 1995
Y	Yes	Van Slype, Georges; "Natural language version of the generic CITED model, Ver. 2.1 – Vol. II ECMS (Electronic Copyright Management System) design for computer based applications", ESPRIT II, Project 5469, The CITED Consortium, May 8, 1995
	Yes	Cousins, Steve B.; Ketchpel, Steven P.; Paepcke, Andreas; Garcia-Molina, Hector; Hassan, Scott W.; Roscheisen, Martin; "InterPay: Managing Multiple Payment Mechanisms in Digital Libraries"
	Yes	"PKCS #5: Password-Based Encryption Standard", An RSA Laboratories Technical Note, Ver. 1.5, 1991-1993, Revised Nov. 1, 1993
	Yes	"PKCS #8: Private-Key Information Syntax Standard", An RSA Laboratories Technical Note, Ver. 1.2, 1991-1993, Revised Nov. 1, 1993
	Yes	"PKCS #10: Certification Request Syntax Standard", An RSA Laboratories Technical Note, Ver. 1.0, Nov. 1. 1993

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	Yes	"PKCS 12 v1.0: Personal Information Exchange Syntax", RSA Laboratories, Jun. 24, 1999
	Yes	"PKCS #13: Elliptic Curve Cryptography Standard", RSA Security, Jan. 12, 1998
	Yes	"PKCS #15 v1.0: Cryptographic Token Information Format Standard", RSA Laboratories, Apr. 23, 1999
	Yes	U.S. 5,335,346; Aug. 2, 1994
Y	Yes	Garfinkel, Simson; Spafford, Gene; Practical UNIX Security, O'Reilly & Associates, Inc., 1991
Y	Yes	Merkle, Ralph C., "Protocols for Public Key Cryptosystems", IEEE, 1980
	Yes	Kaner, Cem; Falk, Jack; Nguyen, Hung Quoc; Testing Computer Software, Second Edition, Van Nostrand Reinhold, 1988
	Yes	Press, Jim; Bunting, Angela "A New Approach to Cryptographic Facility Design", ICL Mid-Range Systems Division Reading, Berks, UK
Y		US 6,256,668; Jul. 3, 2001
Y		Kim, Gene H.; Spafford, Eugene H.; "Experiences with Tripwire: Using Integrity Checkers for Intrusion Detection", Purdue Technical Report CSD-TR-94-012, Feb. 21, 1994
Y		"Technical Description: Pay-Per-View Copy Protection", Macrovision, Jun. 1994
Y		Reali, Patti; "Copy Protection: The answer to pay per view's prayers?", TVRO Dealer, Dec. 1994
		Swedlow, Tracy; "2000: Interactive Enhanced Television: A Historical and Critical Perspective", Interactive TV Today
		Various articles from EE Times, Week of Oct. 2, 1995
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Y		Galaxy, Opcode Systems, 1991-1994
Y		Unix System V & BSD & GNU versions prior to Feb 22, 1996
Y		US 5,673,316; Sep. 30, 1997
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		Hill, Will; Hollan, Jim; "History-Enriched Digital Objects", Computer Graphics and Interactive Media Research Group; Bell Communications Research, 1993
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Anticipates	Renders Obvious	Description
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	Yes	ISO 11568-1 & -2: "Key management (retail) - Part 1: Introduction to key management"; and "- Part 2: Key management techniques for symmetric ciphers", ISO, Dec. 1, 1994
	Yes	ISO 13491-1: "Secure cryptographic devices (retail) – Part 1: Concepts, requirements and evaluation methods", ISO, Jun. 15, 1998
	Yes	ISO 8583-2: "Financial transaction card originated messages - Interchange message specifications - Part 2: Application and registration procedures for Institution Identification Codes (IIC)", ISO, Jul. 1, 1998
	Yes	ISO 8583-3: "Financial transaction card originated messages - Interchange message specifications - Part 3: Maintenance procedures for codes", ISO, Jul. 1, 1998
	Yes	ISO 9564-1 & -2: "Personal Identification Number (PIN) management and security - Part 1: Basic principals and requirements for online PIN handling in ATM and POS systems; & -2 Approved algorithm(s) for PIN encipherment", ISO, Apr. 15, 2002 & Dec. 15, 1991
	Yes	ISO 9807: "Banking and related financial services - Requirements for message authentication (retail)," ISO, Dec. 15, 1991
	Yes	Secure Electronic Transactions; Mastercard and Visa+C345
	Yes	Tanenbaum, Andrew S; van Renesse, Robbert; van Staveren, Hans; Sharp, Gregory J.; Mullender, Sape J.; Jansen, Jack; van Rossum, Guido; "Experiences with the Amoeba Distributed Operating System", Vrije Universiteit and Centrum voor Wiskunde en Informatica
	Yes	Tanenbaum, Andrew S; Mullender, Sape J.; van Renesse, Robbert; "Using Sparse Capabilities in a Distributed Operating System", Vrije Universiteit and Centre for Mathematics and Computer Science
Y	Yes	Tanenbaum, Andrew S; van Renesse, Robbert; van Staveren, Hans; Sharp, Gregory J.; Mullender, Sape J.; Jansen, Jack; van Rossum, Guido; "Amoeba System", Communications of the ACM, Vol. 33, No. 12, Dec. 1990
	Yes	"KeyKOS Principles of Operation", Key Logic document KL002-04, 1985, (Fourth Edition, Jan. 1987)
	Yes	Landau, Charles R.; "Security in a Secure Capability-Based System", Operating Systems Review, Oct. 1989
	Yes	"Security in KeyKOS"
	Yes	Hardy, Norman; "The Keykos Architecture", Key Logic Document KL028-08, Eighth Edition, Dec. 1990
	Yes	Johnson, Howard L.; Koegel, John F.; Koegel, Rhonda M; "A Secure Distributed Capability Based System", ACM, 1985

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Anticipates	Renders Obvious	Description
	Yes	Kim, Gene H.; Spafford, Eugene H.; "Experiences with Tripwire: Using Integrity Checkers for Intrusion Detection", COAST Laboratory, Purdue University, Feb. 22, 1995
	Yes	Blaze, Matt; "Key Management in an Encrypting File System", Proc. Summer 1994 USENIX Technical Conference, Jun. 1994
	Yes	Robinson, D.; Ullmann, R.; "Encoding Header Field for Internet Messages", Network Working Group RFC 1154, Apr. 1990; Rose, M.; McCloghrie, K.; "Structure and Identification of Management Information for TCP/IP-based Internets", Network Working Group RFC 1155, May 1990
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	Yes	"PKCS #1: RSA Encryption Standard", RSA Laboratories Technical Note, Ver. 1.5, Revised Nov. 1, 1993
	Yes	"PKCS #3: Diffie-Hellman Key-Agreement Standard", RSA Laboratories Technical Note, Ver. 1.4, Revised Nov. 1, 1993
	Yes	"PKCS #6: Extended-Certificate Syntax Standard", RSA Laboratories Technical Note, Ver. 1.5, Revised Nov. 1, 1993
	Yes	"PKCS #9: Selected Attribute Types", RSA Laboratories Technical Note, Ver. 1.1, Revised Nov. 1, 1993
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	Yes	Feistel, H.; "Cryptographic Coding for Data-Bank Privacy", IBM document RC 2827, Mar. 18, 1970
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Anticipates	Renders Obvious	Description
Y	Yes	"CopySmart (CSM) suit", European Information Technology for Information Science; COPYSMART - 20517: "CITED based multi-media IPR management on cost effective smart device", European Information Technology for Information Science, start date Dec. 1, 1995; Summaries of Projects (FP III/IV) - Part I: "ESPIRIT Project 20517 - COPYSMART CITED based multi-media IPR management on cost effective smart device", European Information Technology for Information Science, Oct. 1998
	Yes	"CREANET - Creative Rights European Agency NETwork - Project Profile" information society technologies, edited Feb. 18, 2000
	Yes	"iOpener System Description", National Semiconductor, 1993
	Yes	"iPower Technology" (National Semiconductor marketing brochure)
	Yes	"The Standards Business: Time for Change," European Commission DG111 Espirit Project 5th Consensus Forum, Nov. 3-4, 1998; "ESPIRIT Project 20676 - IMPRIMATUR - Intellectual Multimedia Property Rights Model and Terminology for Universal Reference", IMPRIMATUR Consortium, Oct. 1998; Electronic Reserve Copyright Management System (ERCOMS), International Institute for Electronic Library Research, website updated by Ramsden, Anne, Jul. 22, 1996; Achievements Archive, www.imprimatur.net/ web pages; impramatur news, iMPRIMATUR, Dec. 1998; Barlas, Chris: "The Imprimatur Project"
	Yes	JUKEBOX-Music Across Borders, LIB-JUKEBOX/4-1049
	Yes	"ESPRIT Project 24378 - MENHIR European Multimedia network of high quality image registration", Museums On Line, Feb. 1, 1997
	Yes	"ESPIRIT Project 22226 - MUSE - Developing standardized digital media management, signaling and encryption systems for the European music sector", International Federation of the Phonographic Industry, Oct. 1998
	Yes	"STARFISH State of the Art Dinancial Services for the inHabitants of isolated areas - Project Profile" information society technologies, time schedule Jan. 21, 2000 - Jun. 30, 2002

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Anticipates	Renders Obvious	Description
	Yes	"TALISMAN - Tracing Authors' rights by Labelling Image Services and Monitoring Access Network," ACTS Project No. AC019, Doc Reference AC019-THO-RGS-FR-P-001-b1, Sep. 25, 1998; Simon, C.; Goray, E.; Vercken, G.; Delivet, B.; Delaigle, JF.; Boucqueau, JM.; "Digital Images protection managment in a broadcast framework: Overview/TALISMAN solution," Thomson-CSF, RTBF, ART3000, UCL; "TALISMAN: Tracing Authors' rights by labelling image services and monitoring access network," ACTS, Swiss Participation in European Research Programmes, Sep. 1, 1995 - Aug. 31, 1998
	Yes	"TELENET TELEtraining platform (on NETworks) - Project Profile" information society technologies, time schedule Mar. 6, 2000 - Mar. 30, 2000; "Deliverable D3: Specification of the Infrastructure And explanation of trust and confidence building solutions" Ver. 0.1, Telenet, Jul. 18, 2000; Email from Edmond Kouka to Jean-Francois Boisson re Affaire BC-CreaNet; Feb. 10, 2001; Email from Bogdan Lutkiewicz to Jean-Francois Boisson re TELENET TELEtraining platform - Bogdan Lutkiewicz, Poland, Gdansk; Mar. 4, 2001
Y	Yes	Boisson, Jean-Francois; "Management of Intellectual Property Rights in the Electronic Commerce: Textile Design Sales And Other Similar Initiatives," EURITIS
	Yes	U.S. Patent No. 5,251,294; Oct. 5, 1993
	Yes	S.H. Low, N.F. Maxemchuk, J.T. Bassil, & L. O'Gorman, Document Marking and Identification Using Both Line and Word Shifting, Infocom 95, 1994
	Yes	Caroni, Maxemchuck & O'Gorman, Electronic Marking and Identification Techniques to Discourage Document Copying, Proc. Infocom 94, 1994
	Yes	Wagner, Fingerprinting, IEEE Symp. On Info. and Privacy, Apr., 93
	Yes	H. Berghal, L Ogorman, "Protecting Ownership Rights Through Digital Watermarking", IEEE Computing v. 29, No.7, Jul., 1996,
	Yes	Chor, Fiat & Naor, Tracing Traitors, Crypto 94, p. 257, 1994
	Yes	David Chaum, "Security Without Identification: Transaction Systems to Make Big Brother Obsolete", Comm. Of the ACM, vol. 28, no. 10, Oct. 1985
	Yes	"Wallet Databases with Observers", David Chaum, Advances in Cryptology – Proceedings of Crypto '92 (pp. 89-105), 1992
Y	Yes	Sirbu, Marvin; Tygar, J.D.; "NetBill: An Internet Commerce System Optimized for Network Delivered Services", Carnegie Mellon University
	Yes	Ulrich Kohl, Jeffrey Lotspiech, Marc Kaplan, "Safeguarding Digital Library Contents and Users", IBM Research Division, D-Lib Magazine, Sept. 97
	Yes	Daniel Schutzer, A Need for a Common Infrastructure: Digital Libraries and Electronic Commerce, Apr. 1996
	Yes	Michael Lesk, Digital Libraries Meet Electronic Commernce: On-Screen Intellectual Property, Dec. 15, 98

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	Yes	"AT&T Smart Cards Systems & Solutions", AT&T, 1993
Y	Yes	Gemplus; "MCOS: Multi Application Chip Operating System - Introduction", Gemplus Card International, 1990
	Yes	Guillou, Louis C.; "Smart Cards and Conditional Access", Springer-Verlag, 1988
	Yes	David L. Chaum, "Untraceable Electronic Mail, Return Addresses, and Digital Pseudonyms", 1981
	Yes	Kent, S.; "U.S. Department of Defense Security Options for the Internet Protocol", Network Working Group RFC 1108, Nov. 1991
	Yes	Deering, S.E.; "Host Extensions for IP Multicasting", Network Working Group, RFC 1112, Aug. 1989
	Yes	Pethia, R.; Crocker, S.; Fraser, B.; "Guidelines for the Secure Operation of the Internet", Network Working Group RFC 1281, Nov., 1991
	Yes	Galvin, J.; McCloghrie, K.; "Security Protocols for version 2 of the Simple Network Management Protocol (SNMPv2)", Network Working Group RFC 1446, Apr., 1993
	Yes	Eastlake III, D.; "Physical Link Security Type of Service", Network Working Group RFC 1455, May, 1993
	Yes	Kastenholz, F.; "The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol", Network Working Group RFC 1472, Jun. 1993
Y	Yes	Kohl, J., Neuman, C.; "The Kerberos Network Authentication Service (V5)", Network Working Group RFC 1510, Sep., 1993
	Yes	Eastlake III, D.; Crocker, S.; Schiller, J.; "Randomness Recommendations for Security", Network Working Group RFC 1750, Dec. 1994
	Yes	Haller, N.; "The S/KEY One-Time Password System", Network Working Group RFC 1760, Feb., 1995
	Yes	Atkinson, R.; "Security Architecture for the Internet Protocol", Network Working Group RFC 1825, Aug., 1995
	Yes	Crocker, S.; Freed, N.; Galvin, J.; Murphy, S.; "MIME Object Security Services", Network Working Group RFC 1848, Oct., 1995
	Yes	U.S. Patent No. 5,251,294; Oct. 5, 1993
	Yes	S.H. Low, N.F. Maxemchuk, J.T. Bassil, & L. O'Gorman, "Document Marking and Identification Using Both Line and Word Shifting," AT&T Bell Laboratories, Infocom 95, Jul. 29, 1994
	Yes	Brassil, J.; Low, S.; Maxemchuck, N.; O'Gorman L.; "Electronic Marking and Identification Techniques to Discourage Document Copying," AT&T Bell Laboratories, Proc. Infocom 94, 1994
	Yes	Wagner, Neal; "Fingerprinting," Drexel University, IEEE Symp. On Info. and Privacy, Apr., 1993
	Yes	Berghal, Hal; Ogorman, Lawrence; "Protecting Ownership Rights Through Digital Watermarking," IEEE Computing v. 29, no.7, pp. 101-103, Jul., 1996
	Yes	Chor, Benny; Fiat, Amos; Naor, Moni; "Tracing Traitors," Crypto 94, p. 257, 1994

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	Yes	Chaum, David; "Security Without Identification: Transaction Systems to Make Big Brother Obsolete", Communications of the ACM, vol. 28, no. 10, Oct., 1985
	Yes	Chaum, David; Pederson, Torben Pryds; "Wallet Databases with Observers", CWI, Aarhus University, David Chaum, Advances in Cryptology -- Proceedings of Crypto '92, pp. 89-105, 1992
	Yes	Kohl, Ulrich; Lotspiech, Jeffrey; Kaplan, Marc; "Safeguarding Digital Library Contents and Users", IBM Research Division, D-Lib Magazine, Sept., 1997
	Yes	Schutzer, Daniel; "A Need for a Common Infrastructure: Digital Libraries and Electronic Commerce," Citibank, D-Lib Magazine, Apr., 1996
	Yes	Paepcke, Andreas; "Summary of Stanford's Digital Library Testbed and Status", Stanford University, D-Lib Magazine, Jul.-Aug., 1996
	Yes	Dempsey, Lorcan; Weibel, Stuart L.; "The Warwick Metadata Workshop: A Framework for the Deployment of Resource Description", University of Bath, OCLC Office of Research, D-Lib Magazine, Jul.-Aug., 1996
	Yes	"AT&T Smart Cards Systems & Solutions", AT&T, 1993
	Yes	Brad J. Cox, Dr., "What if there is a silver bullet?", Dobbs Journal, Oct. 1992
	Yes	Guillou, Louis C.; "Smart Cards and Conditional Access", Springer-Verlag, 1988
	Yes	Chaum, David; "Untraceable Electronic Mail, Return Addresses, and Digital Pseudonyms", Communications of the ACM, vol. 24, No. 3, Feb., 1981
	Yes	Kent, S.; "U.S. Department of Defense Security Options for the Internet Protocol", Network Working Group RFC 1108, Nov. 1991
	Yes	Deering, S.; "Host Extensions for IP Multicasting", Network Working Group RFC 1112, Aug. 1989
	Yes	White, Steve R.; Comerford, Liam; "ABYSS: A Trusted Architecture for Software Protection", IEEE, Apr. 27, 1987
	Yes	Ross, Philip E.; "Cops versus robbers in cyberspace"; Forbes, Sep. 9, 1996
	Yes	"Data Networks and Open System Communications, Directory: Information Technology – Open Systems Interconnection – The Directory: Overview of Concepts, Models, and Services", ITU-T Recommendation X.500, International Telecommunication Union, Nov. 1993
	Yes	Bender, W.; Gruhl, D.; Morimoto, N.; Lu, A.; "Techniques for data hiding", IBM Systems Journal, Vol. 35, Nos. 3&4, 1996
	Yes	Maxemchuk, N.F.; "Electronic Document Distribution", AT&T Bell Laboratories
	Yes	Doster, Bill; Rees, Jim; "Third-Party Authentication in the Institutional File System", Center for Information Technology Integration
	Yes	Levy, Steven; "E-Money (That's What I Want)", Wired Magazine, Issue 2.12, Dec. 94
	Yes	Arms, William Y., "Key Concepts in the Architecture of the Digital Library", D-Lib Magazine, Jul. 1995
	Yes	Weingart, S.H., "Physical Security for the uABYSS System", IEEE, 1987
	Yes	B. Strohm, L. Comerford, S. R. White, "ABYSS: Tokens", IBM Research Report Number RC 12402, Dec. 18, 1986

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APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
	Yes	Gozani, Shai; Gray, Mary; Keshav, Srinivasan; Madisetti, Mijay; Munson, Ethan; Rosenblum, Mendel; Schoettler, Steve; Sullivan, Mark; Terry, Douglas; "GAFFES: The Design of a Globally Distributed File System", Report No. UCB/CSD 87/361; Computer Science Division (EECS), U.C. Berkley, Jun. 1997
	Yes	Chaum, David; Fiat, Amos; Naor, Moni; "Untraceable Electronic Cash", Lecture Notes in Computer Science, 403, Advances in Cryptology.- CRYPTO '88 Proceedings, 1988
	Yes	Chaum, David; "Privacy and Social Protection in Electronic Payment Systems", Chapter 12, The Future of Money in the Information Age
	Yes	Bos, Jurjen.; Chaum, David; "SmartCash: a Practical Electronic Payment System", Center for Mathematics and Computer Science, Report CS-R9035, Aug.
	Yes	Gircys, Gintaras R.; Understanding and Using COFF, O'Reilly & Associates, Inc.; Nov. 1988
	Yes	Unix System V, Release 3.2, Programmer's Guide Vol. II, AT&T, Prentice Hall, 1989
	Yes	Richarson, Dennis W.; Electric Money: Evolution of an Electronic Funds-Transfer System, The MIT Press, 1970
	Yes	Custer, Helen; Inside Windows NT, Microsoft Press, Redmond, WA, 1993
	Yes	Pietrek, Matt; Windows Internals: The Implementation of the Windows Operating Environment, Addison-Wesley, 1993
	Yes	Gilde, R., "DAT-Heads: Frequently Asked Questions", 1991, Release 3.1-Sep. 2, 1992
	Yes	Tardo, Joseph; Valente, Luis; "Mobile Agent Security and Telescript", General Magic, Inc.
	Yes	"Telescript Security", BYTE.com, Oct. 1994
	Yes	"Forum on Risks to the Public in Computers and Related Systems: ACM Committee on Computers and Public Policy, Peter G. Neumann, moderator", Risks-Forum Digest, Vol. 15, Issue 40, Jan. 24, 1994
	Yes	Sahuguet, Arnaud; "Piracy: the Dark Side of Electronic Commerce: CIS-700/2", Univ. of Pennsylvania, May 5, 1998
Y	Yes	Rouaix, Francois; "A Web navigator with applets in Caml", INRIA
	Yes	Fuchsberger, Andreas; Gollmann, Dieter; Lothian, Paul; Paterson, Kenneth G.; Sidiropoulos, Abraham; "Public-key Cryptography on Smart Cards", Information Security Group
	Yes	"An Introduction to Safety and Security in Telescript", Telescript Powered
	Yes	Clarke, Roger; Bunting, Angela; "Cryptography issues in plain text", Privacy Law and Policy Reporter, 1996
Y	Yes	Pratt & Witney Inuse
Y	Yes	Use of ATM
Y	Yes	Use of Set Top Box
Y	Yes	Protective Envelope System
		PRIOR ART
	Yes	3,573,747; Adams et al.

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Anticipates	Renders Obvious	Description
	Yes	3,609,697; Blevins
	Yes	3,790,700; Callais et al.
	Yes	3,796,830; Smith
	Yes	3,798,359; Feistel
	Yes	3,798,360; Feistel
	Yes	3,798,605; Feistel
	Yes	3,806,882; Clarke
	Yes	3,829,833; Freeny, Jr.
	Yes	3,906,448; Henriques
	Yes	3,911,397; Freeny, Jr.
	Yes	3,924,065; Freeny, Jr.
	Yes	3,931,504; Jacoby
	Yes	3,946,200; Brobeck et al.
	Yes	3,946,220; Brobeck et al.
	Yes	3,956,615; Anderson et al.
	Yes	3,958,081; Ehrsam et al.
	Yes	3,970,992; Boothroyd et al.
	Yes	4,048,619; Forman, Jr. et al.
	Yes	4,071,911; Mazur
	Yes	4,112,421; Freeny, Jr.
	Yes	4,120,030; Johnstone
	Yes	4,162,483; Entenman
	Yes	4,163,280; Mori et al.
	Yes	4,168,396; Best
	Yes	4,196,310; Forman et al.
	Yes	4,200,913; Kuhar et al.
	Yes	4,209,787; Freeny, Jr.
	Yes	4,217,588; Freeny, Jr.
	Yes	4,220,991; Hamano et al.
	Yes	4,232,193; Gerard
	Yes	4,232,317; Freeny, Jr.
	Yes	4,236,217; Kennedy
	Yes	4,253,157; Kirschner et al.
	Yes	4,262,329; Bright et al.
	Yes	4,265,371; Desai et al.
	Yes	4,270,182; Asija
	Yes	4,278,837; Best
	Yes	4,305,131; Best
	Yes	4,306,289; Lumley
	Yes	4,309,569; Merkle
	Yes	4,319,079; Best
	Yes	4,323,921; Guillou
	Yes	4,328,544; Baldwin et al.
	Yes	4,337,483; Guillou
	Yes	4,361,877; Dyer et al.
	Yes	4,375,579; Davida et al.
	Yes	4,433,207; Best
	Yes	4,434,464; Suzuki et al.

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APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
	Yes	4,442,486; Mayer
	Yes	4,446,519; Thomas
	Yes	4,454,594; Heffron et al.
	Yes	4,458,315; Uchenick
	Yes	4,462,076; Smith, III
	Yes	4,462,078; Ross
	Yes	4,465,901; Best
	Yes	4,471,163; Donald et al.
	Yes	4,484,217; Block et al.
	Yes	4,494,156; Kadison et al.
	Yes	4,513,174; Herman
	Yes	4,528,588; Lofberg
	Yes	4,528,643; Freeny, Jr.
	Yes	4,553,252; Egendorf
	Yes	4,558,176; Arnold et al.
	Yes	4,558,413; Schmidt et al.
	Yes	4,562,306; Chou et al.
	Yes	4,562,495; Bond et al.
	Yes	4,577,289; Comerford et al.
	Yes	4,584,641; Guglielmino
	Yes	4,588,991; Atalla
	Yes	4,589,064; Chiba et al.
	Yes	4,593,183; Fukatsu
	Yes	4,593,353; Pickholtz
	Yes	4,593,376; Volk
	Yes	4,595,950; Lofberg
	Yes	4,597,058; Izumi et al.
	Yes	4,622,222; Johnson
	Yes	4,634,807; Chorley et al.
	Yes	4,644,493; Chandra et al.
	Yes	4,646,234; Tolman et al.
	Yes	4,652,990; Pailen et al.
	Yes	4,658,093; Hellman
	Yes	4,670,857; Rackman
	Yes	4,672,572; Alsberg
	Yes	4,677,434; Fascenda
	Yes	4,677,552; Sibley, Jr.
	Yes	4,680,731; Izumi et al.
	Yes	4,683,553; Mollier
	Yes	4,685,056; Barnsdale et al.
	Yes	4,688,169; Joshi
	Yes	4,691,350; Kleijne et al.
	Yes	4,696,034; Wiedemer
	Yes	4,700,296; Palmer, Jr. et al.
	Yes	4,701,846; Ikeda et al.
	Yes	4,712,238; Gilhousen et al.
	Yes	4,713,753; Boebert et al.
	Yes	4,727,550; Chang et al.

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Anticipates	Renders Obvious	Description
	Yes	4,740,890; William
	Yes	4,747,139; Taaffe
	Yes	4,757,533; Allen et al.
	Yes	4,757,534; Matyas et al.
	Yes	4,768,087; Taub et al.
	Yes	4,791,565; Dunham et al.
	Yes	4,796,181; Wiedemer
	Yes	4,798,209; Klingenbeck et al.
	Yes	4,799,156; Shavit et al.
	Yes	4,807,288; Ugon et al.
	Yes	4,817,140; Chandra et al.
	Yes	4,823,264; Deming
	Yes	4,827,508; Shear
	Yes	4,858,121; Barber et al.
	Yes	4,864,494; Kobus
	Yes	4,866,769; Karp
	Yes	4,868,877; Fischer
	Yes	4,903,296; Chandra et al.
	Yes	4,924,378; Hershey et al.
	Yes	4,930,073; Cina, Jr.
	Yes	4,949,187; Cohen
	Yes	4,975,647; Downer et al.
	Yes	4,977,594; Shear
	Yes	4,999,806; Chernow et al.
	Yes	5,001,752; Fischer
	Yes	5,005,122; Griffin et al.
	Yes	5,005,200; Fischer
	Yes	5,010,571; Katznelson
	Yes	5,023,907; Johnson et al.
	Yes	5,047,928; Wiedemer
	Yes	5,048,085; Abraham et al.
	Yes	5,050,213; Shear
	Yes	5,091,966; Bloomberg et al.
	Yes	5,103,392; Mori
	Yes	5,103,476; Waite et al.
	Yes	5,111,390; Ketcham
	Yes	5,119,493; Janis et al.
	Yes	5,126,936; Champion et al.
	Yes	5,128,525; Stearns et al.
	Yes	5,136,643; Fischer
	Yes	5,136,646; Haber et al.
	Yes	5,136,647; Haber et al.
	Yes	5,136,716; Harvey et al.
	Yes	5,146,575; Nolan, Jr.
	Yes	5,148,481; Abraham et al.
	Yes	5,155,680; Wiedemer
Y	Yes	5,163,091; Graziano et al.
	Yes	5,168,147; Bloomberg

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Anticipates	Renders Obvious	Description
	Yes	5,185,717; Mori
	Yes	5,187,787; Skeen et al.
	Yes	5,201,046; Goldberg et al.
	Yes	5,201,047; Maki et al.
	Yes	5,208,748; Flores et al.
	Yes	5,214,702; Fischer
	Yes	5,216,603; Flores et al.
	Yes	5,221,833; Hecht
	Yes	5,222,134; Waite et al.
	Yes	5,224,160; Paulini et al.
	Yes	5,224,163; Gasser et al.
	Yes	5,227,797; Murphy
	Yes	5,235,642; Wobber et al.
	Yes	5,241,671; Reed et al.
	Yes	5,245,165; Zhang
	Yes	5,247,575; Sprague et al.
	Yes	5,257,369; Skeen et al.
	Yes	5,260,999; Wyman
	Yes	5,263,158; Janis
	Yes	5,265,164; Matyas et al.
Y	Yes	5,276,735; Boebert et al.
	Yes	5,280,479; Mary
	Yes	5,285,494; Sprecher et al.
	Yes	5,301,231; Abraham et al.
	Yes	5,311,591; Fischer
	Yes	5,319,705; Halter et al.
	Yes	5,319,785; Halter et al.
	Yes	5,335,169; Chong
	Yes	5,337,360; Fischer
	Yes	5,341,429; Stringer et al.
	Yes	5,343,527; Moore
	Yes	5,347,579; Blandford
	Yes	5,351,293; Michener et al.
Y	Yes	5,355,474; Thuraisngham et al.
	Yes	5,365,587; Campbell et al.
	Yes	5,373,440; Cohen et al.
	Yes	5,373,561; Haber et al.
	Yes	5,390,247; Fischer
	Yes	5,390,330; Talati
	Yes	5,392,220; van den Hamer et al.
	Yes	5,392,390; Crozier
	Yes	5,394,469; Nagel et al.
	Yes	5,410,598; Shear
	Yes	5,412,717; Fischer
	Yes	5,418,713; Allen
	Yes	5,420,927; Micali
	Yes	5,421,006; Jablon
	Yes	5,422,953; Fischer

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APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
	Yes	5,428,606; Moskowitz
	Yes	5,438,508; Wyman
	Yes	5,442,645; Ugon
	Yes	5,444,779; Daniele
	Yes	5,449,895; Hecht et al.
	Yes	5,449,896; Hecht et al.
	Yes	5,450,493; Maher
	Yes	5,453,601; Rosen
	Yes	5,453,605; Hecht et al.
	Yes	5,455,407; Rosen
	Yes	5,455,861; Faucher et al.
	Yes	5,455,953; Russell
	Yes	5,457,746; Dolphin
	Yes	5,457,747; Drexler et al.
	Yes	5,458,494; Krohn et al.
	Yes	5,463,565; Cookson et al.
	Yes	5,473,687; Lipscomb et al.
	Yes	5,473,692; Davis
	Yes	5,479,509; Ugon
	Yes	5,485,622; Yamaki
	Yes	5,491,800; Goldsmith et al.
	Yes	5,497,479; Hornbuckle
	Yes	5,497,491; Mitchell et al.
	Yes	5,499,298; Narasimhalu et al.
	Yes	5,504,757; Cook et al.
	Yes	5,504,818; Okano
	Yes	5,504,837; Griffeth et al.
	Yes	5,508,913; Yamamoto et al.
	Yes	5,509,070; Schull
	Yes	5,513,261; Maher
	Yes	5,517,518; Rosen
	Yes	5,530,235; Stefik et al.
	Yes	5,530,752; Rubin
	Yes	5,533,123; Force et al.
	Yes	5,534,855; Shockley et al.
	Yes	5,534,975; Stefik et al.
	Yes	5,535,322; Hecht
	Yes	5,537,526; Anderson et al.
	Yes	5,539,735; Moskowitz
	Yes	5,539,828; Davis
	Yes	5,550,971; Brunner et al.
	Yes	5,553,282; Parrish et al.
	Yes	5,557,518; Rosen
	Yes	5,557,798; Skeen et al.
	Yes	5,563,946; Cooper et al.
	Yes	5,568,552; Davis
	Yes	5,572,673; Shurts
	Yes	5,592,549; Naget et al.

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APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
	Yes	5,606,609; Houser et al.
	Yes	5,613,004; Cooperman et al.
	Yes	5,621,797; Rosen
	Yes	5,629,770; Brassil et al.
	Yes	5,629,980; Stefik et al.
	Yes	5,633,932; Davis et al.
	Yes	5,634,012; Stefik et al.
	Yes	5,636,292; Rhoads
	Yes	5,638,443; Stefik et al.
	Yes	5,638,504; Scott et al.
	Yes	5,640,546; Gopinath et al.
	Yes	5,655,077; Jones et al.
	Yes	5,678,170; Grube et al.
	Yes	5,687,236; Moskowitz et al.
	Yes	5,689,587; Bender et al.
Y	Yes	5,692,047; McManis
	Yes	5,692,180; Lee
	Yes	5,710,834; Rhoads
	Yes	5,715,403; Stefik
	Yes	5,721,788; Powell et al.
	Yes	5,732,398; Tagawa
	Yes	5,740,549; Reilly et al.
	Yes	5,745,604; Rhoads
	Yes	5,748,763; Rhoads
	Yes	5,748,783; Rhoads
	Yes	5,748,960; Fischer
	Yes	5,754,849; Dyer et al.
	Yes	5,757,914; McManis
	Yes	5,758,152; LeTourneau
Y	Yes	5,765,152; Erickson
	Yes	5,768,426; Rhoads
	Yes	5,774,872; Golden et al.
	Yes	5,819,263; Bromley et al.
	Yes	5,842,173; Strum et al.
	Yes	BE 9 004 79
	Yes	DE 3 803 982
	Yes	DE 3 803 982 A1
	Yes	EP 0 084 441
	Yes	EP 0 084 441 A1
	Yes	EP 0 128 672
	Yes	EP 0 128 672 A1
	Yes	EP 0 135 422
	Yes	EP 0 135 422 A1
	Yes	EP 0 180 460
	Yes	EP 0 180 460 A1
	Yes	EP 0 370 146
	Yes	EP 0 370 146 A1
	Yes	EP 0 399 822 A2

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Anticipates	Renders Obvious	Description
	Yes	EP 0 421 409
	Yes	EP 0 421 409 A2
	Yes	EP 0 456 386
	Yes	EP 0 456 386 A2
	Yes	EP 0 469 864
	Yes	EP 0 469 864 A2
	Yes	EP 0 469 864 A3
	Yes	EP 0 565 314
	Yes	EP 0 565 314 A2
	Yes	EP 0 593 305
	Yes	EP 0 593 305 A2
	Yes	EP 0 651 554
	Yes	EP 0 651 554 A1
	Yes	EP 0 668 695
	Yes	EP 0 668 695 A2
	Yes	EP 0 668 695 A3
	Yes	EP 0 695 985
	Yes	EP 0 695 985 A1
	Yes	EP 0 696 798
	Yes	EP 0 696 798 A1
	Yes	EP 0 714 204
	Yes	EP 0 714 204 A2
	Yes	EP 0 715 243
	Yes	EP 0 715 243 A1
	Yes	EP 0 715 244
	Yes	EP 0 715 244 A1
	Yes	EP 0 715 245
	Yes	EP 0 715 245 A1
	Yes	EP 0 715 246
	Yes	EP 0 715 246 A1
	Yes	EP 0 715 247
	Yes	EP 0 715 247 A1
	Yes	EP 0 725 376
	Yes	EP 0 725 376 A2
	Yes	EP 0 749 081
	Yes	EP 0 749 081 A1
	Yes	EP 0 763 936
	Yes	EP 0 763 936 A2
	Yes	EP 0 778 513
	Yes	EP 0 778 513 A2
	Yes	EP 0 795 873
	Yes	EP 0 795 873 A2
	Yes	EP 0 800 312
	Yes	EP 0 800 312 A1
	Yes	GB 2,136,175
	Yes	GB 2,264,796
	Yes	GB 2,294,348
	Yes	GB 2,295,947

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Anticipates	Renders Obvious	Description
	Yes	JP 01-068835
	Yes	JP 02-242352
	Yes	JP 02-247763
	Yes	JP 02-294855
	Yes	JP 04-369068
	Yes	JP 05-181734
	Yes	JP 05-257783
	Yes	JP 05-268415
	Yes	JP 06-175794
	Yes	JP 06-215010
	Yes	JP 06-225059
	Yes	JP 07-056794
	Yes	JP 07-084852
	Yes	JP 07-141138
	Yes	JP 07-200317
	Yes	JP 07-200492
	Yes	JP 07-244639
	Yes	JP 08-137795
	Yes	JP 08-152990
	Yes	JP 08-185292
	Yes	JP 08-185298
	Yes	JP 57-726
	Yes	JP 62-241061
	Yes	WO 85/02310
	Yes	WO 85/03584
	Yes	WO 90/02382
	Yes	WO 92/06438
	Yes	WO 92/22870
	Yes	WO 93/01550
	Yes	WO 94/01821
	Yes	WO 94/03859
	Yes	WO 94/06103
	Yes	WO 94/16395
	Yes	WO 94/18620
	Yes	WO 94/22266
	Yes	WO 94/27406
	Yes	WO 95/14289
	Yes	WO 96/00963
	Yes	WO 96/03835
	Yes	WO 96/05698
	Yes	WO 96/06503
	Yes	WO 96/13013
	Yes	WO 96/21192
	Yes	WO 96/24092
	Yes	WO 97/03423
	Yes	WO 97/07656
	Yes	WO 97/25816
	Yes	WO 97/32251

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Anticipates	Renders Obvious	Description
	Yes	WO 97/48203
	Yes	Amerke, David, et al., News Release, AT&T, Jan. 9, 1995, AT&T encryption system protects information services, 1 page.
	Yes	Applications Requirements for Innovative Video Programming; How to Foster (or Cripple) Program Development Opportunities for Interactive Video Programs Delivered on Optical Media; A Challenge for the Introduction of DVD (Digital Video Disc) (19-20 Oct. 19
	Yes	Argent Information Q&A Sheet, http://www.digital-watermark.com/, Copyright 1995, The DICE Company, 7 pages.
	Yes	Automation of Securities Markets and Regulatory Implications, Financial Market Trends, n50, p. 20-33, Oct. 1991. [File 148, Gale Group Trade & Industry DB, Dialog(R) commercial database]
	Yes	Avery et al, Recommender Systems For Evaluating Computer Messages, Communications of the ACM, pp. 88-89 (Mar. 1997).
	Yes	Background on the Administration's Telecommunications Policy Reform Initiative, News Release, The White House, Office of the President, Jan. 11, 1994
	Yes	Baggett, Claude, Cable's Emerging Role in the Information Superhighway, Cable Labs, 13 slides.
	Yes	Balabanovic et al, Content-based, Collaborative Recommendation, Communications of the ACM, pp. 66-72 (Mar. 1997).
	Yes	Barassi, Theodore Sedgwick Esq., The Cybernotary: Public Key Registration and Certificaiton and Authentication of International Legal Transactions, 4 pages.
	Yes	Barnes, Hugh, memo to Henry LaMuth, subject: George Gilder articles, May 31, 1994.
	Yes	Bart, Dan, Comments in the Matter of Public Hearing and Request for Comments on the International Aspects of the National Information Infrastructure, Before the Department of Commerce, Aug. 12, 1994.
	Yes	Baum, Michael, Worldwide Electronic Commerce: Law, Policy and Controls Conference, program details, Nov. 11, 1993.
	Yes	Best, Robert M., Digest of Papers, VLSI: New Architectural Horizons, Feb. 1980, Preventing Software Piracy With Crypto-Microprocessors, pp. 466-469.
	Yes	Bisbey, Richard L., II and Gerald J Popek, Encapsulation: An Approach to Operating System Security, (USC/Information Science Institute, Marina Del Rey, CA) Oct. 1973, pp. 666-675.
	Yes	Blom et al., Encryption Methods in Data Networks, Ericsson Technics, No. 2, 1978, Stockholm, Sweden.
	Yes	Bruner, Rick E., "PowerAgent, NetBot help advertisers reach Internet shoppers," Aug. 1997 (Document from Internet).
	Yes	Cable Television and America's Telecommunications Infrastructure, (National Cable Television Association, Washington, D.C.), Apr. 1993, 19 pages.
	Yes	Caruso, Denise, Technology, Digital Commerce: 2 plans for watermarks, which can bind proof of authorship to electronic works, N.Y. Times, Aug. 7, 1995, p. D5.
	Yes	CD ROM, Introducing . . . The Workflow CD-ROM Sampler, Creative Networks, MCIMail: Creative Networks, Inc., Palo Alto, California.

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APPENDIX OF PRIOR ART*

Anticipates	Renders Obvious	Description
	Yes	CGI Common Gateway Interface Document from the Internet, <cgi@ncsa.uiuc.edu>, 1996, 1 page.
	Yes	Chase, Chevy, M.D., DiscStore (Electronic Publishing Resources 1991).
Y	Yes	Choudhury, et al., "Copyright Protection for Electronic Publishing over Computer Networks," AT&T Bell Laboratores, Murray Hill, New Jersey 07974 (Jun. 1994).
	Yes	Clark, Tim, Ad service gives cash back, Document from the Internet: <www.news.com./News/Item/0,4,13050,00.html> (visited Aug. 4, 1997), 2 pages.
	Yes	Codercard, Spec Sheet--Basic Coder Subsystem (Interstate Electronics Corp., Anaheim, CA), (undated) 4 pages.
	Yes	Collection of documents including: Protecting Electronically Published Properties, Increasing Publishing Profits, (Electronic Publishing Resources Inc.) Jan. 1993, 25 pages.
	Yes	Communications of the ACM, Intelligent Agents, Jul. 1994, vol. 37, No. 7.
	Yes	Communications of the ACM, Jun. 1996, vol. 39, No. 6.
	Yes	Computer Systems Policy Project (CSSP), Perpsectives on the National Information Infrastructure: Ensuring Interoperability (Feb. 1994), Feb. 1994.
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B

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C

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